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Illinois State Medical Society.

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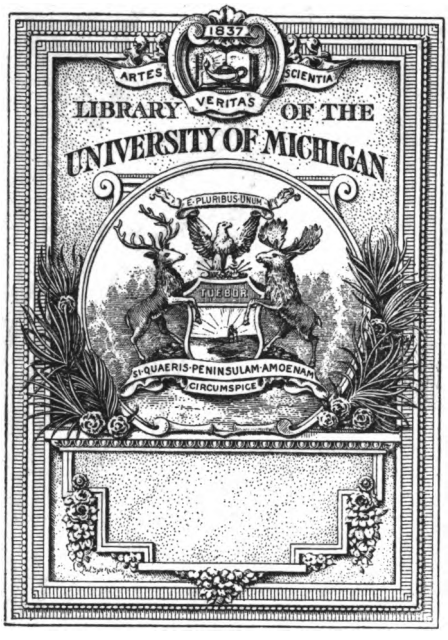

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Members of the Illinois State Medical Society upon the front steps of the Hospital for the Insane, Jacksonville, Ill., May 19, 1875.

A. W. Cadman, Photo.

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Illinois State Medical Society.

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Officers for 1875–'76.

PRESIDENT,

THOMAS D. WASHBURN, M.D., Hillsboro.

1st VICE-PRESIDENT,

JOHN L. WHITE, M.D., Bloomington.

2d VICE-PRESIDENT,

JOHN WRIGHT, M.D., Clinton.

TREASURER,

JOHN H. HOLLISTER, M.D., Chicago.

PERMANENT SECRETARY,

T. DAVIS FITCH, M.D., Chicago.

ASSISTANT SECRETARY,

C. B. JOHNSON, M.D., Tolono.

COMMITTEE OF ARRANGEMENTS,

S. H. BIRNEY, M.D., Urbana, *Chairman.*

A. T. DARRAH, M.D., Tolono.

J. T. PEARMAN, M.D., Champaign.

BOARD OF CENSORS,

ELIAS WENGER, M.D., Gilman, *Chairman.*

E. INGALS, M.D., Chicago.

E. L. HERRIOTT, M.D., Grafton.

REPORTER,

LEANDER STONE, Chicago.

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TRANSACTIONS

OF THE

TWENTY-FIFTH ANNIVERSARY MEETING,

OF THE

ILLINOIS

STATE MEDICAL SOCIETY

HELD IN THE

CITY OF JACKSONVILLE, MAY 18, 19, AND 20, 1875.

CHICAGO:
FERGUS PRINTING COMPANY,
244-248 ILLINOIS STREET.

1875.

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DELEGATES.

Æsculapian Medical Society.—C. B. Johnson, Tolono, Wm. Massie, Grandview, John L. Hay, Paris.

Jersey County Medical Society.—John S. Williams, Paris.

Madison County Medical Society.—Wm. A. Haskell, Alton.

Rush Medical College.—J. W. Freer, Chicago.

Cook County Hospital.—E. Powell, Chicago.

Morgan County Medical Society.—J. P. Johnson, E. D. Wing, H. C. Stewart, Jacksonville, W. C. Cole, Lynnville, G. W. Miller, Woodson, B. H. Skinner, Merritt, T. N. Stewart, Riggston.

District Medical Society Central Illinois.—L. B. Slater, Taylorville.

Military Tract Medical Society.—J. V. Frazier, Vista, Hiram Nance, Kewanee.

Woman's Hospital Medical College.—Lester Curtis, T. Davis Fitch, Chicago.

Central Illinois Medical Society.—John Wright, Clinton, T. F. Worrell, Bloomington, W. G. Cochran, Farmer City.

Champaign County Medical Society.—A. T. Darrah, Tolono, S. H. Birney, Urbana.

North Central Medical Association.—D. L. Woods, Streator.

Society of Physicians and Surgeons.—R. C. Hamill, R. L. Leonard, C. Paul Simon, Chicago.

Fayette County Medical Society.—F. B. Haller, Vandalia.

St. Joseph Hospital.—Walter Hay, Chicago.

Chicago Medical College.—J. S. Jewell, Evanston, F. H. Davis, Chicago.

Montgomery County Medical Society.—Ira Barton, Raymond.

McDonough County Medical Association.—P. H. Garritson, Macomb.

Peoria County Medical Society.—G. L. Corcoran, Brimfield.

Society of Macoupin County for Medical Improvement.—J. P. Matthews, Carlinville, R. M. Wilson, Palmyra, M. W. Seaman, Shipman.

Chicago Medical Society.—Jane E. Walton, Chicago.

Woodford County Medical Society.—F. Cole, El Paso.

McLean County Medical Society.—A. P. Tenney, Bloomington.

Oak Lawn Retreat.—T. Fletcher McFarland, Jacksonville.

DELEGATES FROM FOREIGN SOCIETIES.

St. Louis Medical Society.—W. S. Edgar, T. F. Rumbold, St. Louis, Mo.

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PERMANENT MEMBERS.

G. W. Albin, Neoga.
T. J. Pitner, Jacksonville.
D. Lichty, Rochelle.
D. H. Alvis, Galva.
E. P. Cook, Mendota.
C. T. Wilbur, Jacksonville.
J. O. Hamilton, Jerseyville.
J. H. Mosier, Prophetstown.
Wm. P. Pierce, Lemont.
C. Armstrong, Carrolton.
M. W. Walton, Ridotte.
J. M. Steele, Grand View.
Thos. D. Washburn, Hillsboro.
A. K. Van Horne, Jerseyville.
E. L. Herriott, Grafton.
J. Little, Le Roy.
J. W. Fink, Hillsboro.
T. J. Maxwell, Olena.
H. H. Littlefield, Beardstown.
A. A. Patterson, Curran.
A. C. Rankin, Loda.
G. W. Wright, Canton.
E. Ingals, Chicago.
R. E. McVey, Waverly.
D. E. Foote, Belvidere.
S. Mileham, Camp Point.
J. H. Hollister, Chicago.
David Prince, Jacksonville.
A. S. Read, Chandlerville.

During the Session the following named Physicians were duly proposed and elected Members of this Society.

A. T. Bartlett, Virden.
Nathanal N. Hurst, Streator.
John W. Spear, Mason City.
Robt W. Crothers, Delavan.
T. Van Welch, Jacksonville.
Lucinda H. Corr, Carlinville.
Sarah Hackett Stevenson, Chicago.
Wm. H. Winterbottom, Bayless.
J. N. Allen, Mt. Sterling.
G. W. Cox, Clayburn.
Robert Briggs, Claytown.
John G. McKinney, Barry.
Robt. N. Barger, Hopedale.
A. Reynolds, El Paso.
Rita B. Church, Canton.
J. F. Todd, Galva.
Ellen A. Ingersoll, Canton.
J. W. Dora Mattoon.
W. L. Reed, Cerro Gordo.
S. D. Culbertson, Piper City.
W. L. Goodell, Effingham.
H. Z. Gill, Jerseyville.
Clinton Fisher, Jacksonville.
Thos. J. Whittier, Irving.
W. H. Veatch, Roodhouse.
B. M. Griffith, Springfield.
Justus Townsend, Springfield.
J. M. West, Springfield.
N. Wright, Chatham.
H. K. Jones, Jacksonville.

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SECRETARY'S OFFICE,
ILLINOIS STATE MEDICAL SOCIETY,
CHICAGO, *Nov. 1st, 1875.*

To the Officers and Members of the Illinois State Medical Society:—

GENTLEMEN,—At the last meeting of this Society, held in Jacksonville, May 18, 1875, it will doubtless be remembered by all present that the Committee on Publication (consisting nominally of the Treasurer, Permanent-Secretary, and Assistant-Secretary, but, in fact, consisting only of the Permanent-Secretary, who has all the work to do, and is alone held responsible for the prompt and correct appearance of the Transactions of the Society,) was severely censured for the late appearance of the Transactions of 1874 and the immediate preceding years. A resolution was adopted, looking to the remedying of the principal cause which had given rise to this delay. This resolution, if strictly adhered to, I am satisfied will, in a great measure, relieve the difficulty under which the Committee on Publication (*the Secretary*) has heretofore labored. Another reason, which was stated by Dr. Prince, of Jacksonville, cannot well be overcome, *viz.:* that the Committee on Publication were men of business, and could not give their whole time to the work. It was stated that, if all the reports and papers were put into the hands of the Secretary or Committee at the time they were read, the volume could be issued in fifteen days after the close of the meeting. The members who made these statements did not realize that, in the hurry in registering the names by the Assistant-Secretary and Treasurer, many errors occur in the names and places of residence. The same errors occur in the proposition of names for membership and the reports of the Board of Censors, as well as in the Reporter's copy; the errors require correction, and it takes time and patience. If all these records and papers were put into the hands of the printer as they come to the Committee, we should have a worse jumbled-up mass than we have now, which you all know would be unpardonable. Many other causes of delay, too numerous to mention, are met with. Even with all this delay we are not far behind some other organizations of the kind in issuing our Transactions, and, in fact, we lead some of them.

I came home from our last meeting with the fixed determination that no effort should be spared, by me, at least, to forward the work as rapidly as possible—this determination I have lived up to. I have made personal application for some of the reports as many as eight times, and others, by letter, three or four times, and then, as you will see, have failed. Some persons entertain an erroneous idea with regard to their responsibility to the Society, in this wise: they presume, after having read a paper before the Society, to elect whether they will have it published in its Transactions or in some one of the medical journals. I regard this a breach of faith with the Society, as it is a well-established fact that a report or paper read before the Society, or submitted to it, is a presentation to the Society, and the moment said present is accepted by the Society, it is no longer the property of the author, but of the Society, which claims the right of disposing of said paper in any manner it sees fit.

Respectfully submitted,

T. DAVIS FITCH, *Permanent-Secretary.*

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PROCEEDINGS.

The Twenty-fifth Anniversary Meeting of the Illinois State Medical Society convened in the City of Jacksonville, May 18th, 1875.

The Delegates and Members of the Society assembled in Conservatory Hall at 9 o'clock A.M.

Dr. D. PRINCE, Chairman of the Committee of Arrangements, called the Association to order, and Dr. J. H. HOLLISTER, the President, assumed the chair, and addressed the Society, as follows:—

Gentlemen of the Society:—

We are thus heartily welcomed to-day, by the Committee of Arrangements, to this beautiful city of Jacksonville. We not only meet as we have been wont to do—intent upon the advancement of the Medical interests of our State, but a special interest invests this occasion, since we are to commemorate, also, the Twenty-fifth Anniversary of our organization. It is a matter of congratulation, that through these eventful years, the interests of our Society have been so faithfully cherished, and so tenderly cared for, that no element of discord has at any time entered in to trouble us; and that, as we look back over this first quarter of a century, while we mourn the early death of many able and noble members, there come up from the past no sad remembrances of words or deeds which we would now obliterate or change. All the way from first to now, the pathway is only strewn with pleasant memories.

Gentlemen, in assuming the duties of President, permit me here and now to express my sincere appreciation of the honor which you thus confer, my earnest desire to perform the duties incident to this position wisely and well, and my abiding confidence that in this effort I shall be aided not only by your leniency, but by your cheerful and hearty co-operation. Gentlemen, I will not detain

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you longer, but declare the meeting duly organized, and ask you to proceed at once to business.

The first business in order will be the report of the Chairman of the Committee of Arrangements.

Dr. D. Prince, Chairman of the Committee, reported as follows:—

The Committee, having conferred with the officers, have prepared a programme, which, we believe, will result in the pleasure and profit of the Society. It is proposed that this morning, until one o'clock, be devoted to the business of the Society. That, from 2 to 5 o'clock P.M., the Society visit the Idiotic Institution and the Deaf and Dumb Institution. At 2 o'clock, there will be street cars running back and forth to the Idiotic Institution, so that those gentlemen who fail to get into the first car, by waiting ten minutes will find another car running in the same direction. After about an hour spent in that Institution, gentlemen will walk to the Deaf and Dumb Institution, and spend about two hours there, which will bring the afternoon to 5 o'clock, as proposed. After that time, gentlemen can avail themselves of such facilities for looking about the city as the citizens may provide. It is proposed to meet to-night at 7½ o'clock, for the transaction of business. It is proposed that on Wednesday we meet at 8 o'clock a.m., for business, continuing the meeting until 1 o'clock p. m. At 2 o'clock, gentlemen will take the cars going south from the square, and proceed to the Insane Asylum. The cars will be running back and forth, so as to accommodate every one. It is proposed to spend two hours there, and then take the street cars and proceed to a point nearest the Blind Institution, a distance of about two squares, and remain at that Institution until 5 o'clock, when, it is expected that, citizens will provide conveyances around town. It is proposed that to-morrow night an address from the President be given, after which there will be a business meeting. The Committee have made no provision for Thursday.

On motion of Dr. Worrell, the report was adopted.

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The President.—I would like to inquire, before we proceed further, in regard to the trains that are expected to bring other delegates from the north.

Dr. Prince said, at half-past 10, a train would arrive from Chicago, by way of Springfield.

The President.—It is a matter of uncertainty whether the Treasurer will be here at this meeting; and, in order that there may be no delay, I suggest that a Treasurer *pro tem.* be chosen.

The Secretary nominated Dr. W. P. PEIRCE, of Lemont, as Treasurer *pro tem.*

The motion prevailed.

Dr. Prince said, it was desirable that the assessment of members be fixed early, and he moved that it be made three dollars for each member. The motion prevailed.

The President said the Committee of Arrangements would receive the credentials and register the names of Members and Delegates. In case of the presentation of names for membership, it was requisite that they should be recommended by two physicians, who would vouch for their standing.

The Treasurer had formerly considered that a member once a member was permanently so. His name might be dropped from the roll; but if he returned and paid his annual dues, he was not required to pay another initiation fee. But he understood that the Committee of Arrangements thought that if a member was absent six or seven years he must be re-initiated. He thought it had not been the rule with the Society heretofore. If they wished to instruct the Committee it was the province of the Society to do so. He would like to receive instructions with reference to what shall be the rule in this matter. There were members in the room who had formerly been members, who are now assessed, as he understood, for arrearages. He simply stated what had been the precedent for a number of years, and asked what the pleasure of the Society was.

Dr. T. F. Worrell.—What is the difference as to the amount of the fee, whether a re-initiation is demanded or not?

The President.—Two dollars.

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Dr. Prince.—I move that it is the sense of this Association that when an initiation fee is paid once, it be not required again.

Dr. Fitch.—I consider such a motion unnecessary. If I understand the rule correctly, it is that when a gentleman is elected a delegate to this Society, by reason of his delegacy he pays his fee, and goes on the record as a member; but if he does not pay the fee, he is not a member, and has no right in this body as a delegate. But persons chosen members are required to pay an initiation fee, as a part of the process of constituting them members of this Society. Such a person does not become a member, and will not be recorded as such, unless he pays the initiation fee and the assessment.

Dr. Slater.—I would state that, in 1867, I was a delegate from the Sangamon County Medical Society, and paid my initiation fee, as well as my assessment, which the Transactions for that year will show; but not having attended the State Medical Society since, my name disappeared from the catalogue; and the question now occurs, shall I pay the initiation fee again and the assessment also, in order to become a member of this Society?

Dr. Fitch.—It is evident, if a man has failed to attend the Society, or to pay his assessments, for eight years, he ought to pay his initiation fee again.

Dr. G. W. Albin, of Neoga.—It has been the universal custom of this Society to drop the names of members that have been absent five years. The question has been considered by the Society before. It was considered at Springfield; and then the Society decided that a member must attend once in five years, or pay his assessment; otherwise, he must come in as a new member. If he comes as a delegate, he must pay his initiation fee, as a matter of course, as other men do. The payment of the assessments entitles a member to receive the Transactions. The assessments are made for the purpose of raising the funds necessary to publish them, and keep the Society in running order. Therefore, it is absolutely necessary that members should pay their assessments regularly; and the initiation fees on re-entering the Society after they cease to be members. This is the situation of the Society, so far as my knowledge extends.

The President.—Those who are in favor of the motion of Dr. Prince, that only one initiation fee shall be paid, will manifest it by saying aye.

The motion prevailed.

Dr. Fitch read the names of Dr. Nathaniel N. Hurst, of Streator, Dr. A. T. Bartlett, of Verden, Dr. John W. Spear, of Mason City, Dr. A. T. Darrah, and Dr. C. B. Johnson, of Tolono, proposed as members of the Association. They were referred to the Board of Censors.

Dr. Fitch.—I hope it will be distinctly understood, as it has been explained, that if there are any members of this Society who know of any good reasons why any gentleman proposed for membership should not become a member of this Society, they should meet the Board of Censors, that they may investigate the

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case. Persons who attend as delegates need not be proposed, they are members already.

Dr. Peirce.—I would like to make an inquiry for information. I desire to know what the rule is in regard to initiation?

The President.—The rule is this: a person who has never been a member, and makes application to become a member, pays an initiation fee of two dollars, and an assessment of three dollars. But in the case of a member whose name has disappeared from the roll, if he re-appears and pays his assessment, he is a member.

Dr. Peirce.—Do I understand, that a man who was a member twenty years ago, if he comes in now, is still a member if he pays the assessment for this year only?

The President.—Yes, sir.

Dr. Peirce.—Well; I consider it a very unwise rule.

A Member.—I thought a member had to pay the back dues always.

Dr. Steele.—I do not like to have members long absent come in in this way.

Dr. Boal, of Peoria.—I think this discussion is all out of order. I would suggest that the question be reconsidered.

Dr. Fitch moved the reconsideration of Dr. Prince's resolution.

The President put the motion, but a doubt as to the result appearing, and a division being called for, there were 16 in favor of reconsideration and 10 against, so the resolution was reconsidered.

Dr. Fitch.—I move to amend the motion of Dr. Prince, as follows: Any member who fails to pay his assessment for five years, loses his membership in the Society; and can be restored only as provided in section ii. of the Constitution, and by payment of the initiation fee.

Dr. Peirce.—I should regard that motion as superfluous. If I remember correctly, that rule was adopted at the meeting held in Chicago.

The President.—I do not recollect it. The Secretary will inform you.

Dr. Fitch.—That is the rule that has been acted upon, or adopted by common consent. I think there has never been any specific action in regard to it.

Dr. Slater.—If I understand the question, the fees are for the publication of the Transactions and the other incidental expenses of the Society. I do not know how long a member may be absent from the Society, and lose his right to membership; but I know I never received the Transactions but once, and that was in 1867. If I had received the Transactions annually, I should feel justly chargeable with the amount of the assessments.

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Dr. Foote, of Belvidere.—The rule has been this, as far as I understand it: A member once a member, failing to attend, receives the Transactions on paying the assessments, though not present at the meeting. I have been so served. I think, if the brother had sent the assessments he would have received the Transactions. I think no member should be required to pay his assessments for five years, if absent, in order to help keep up the Society.

Dr. Ingals, of Chicago.—I believe the members heretofore have always furnished abundant money to carry on the work of the Society. I think it would be better to invite the profession to join with us, than to make rules to keep them out. I think we are wasting time in the discussion of this question.

Dr. Fitch.—I do not consider this a trifling matter. The carrying on of this Society is necessarily attended with considerable expense. The Treasurer's report for the past year will show that there is but little money in the treasury—about $30; and the Society cannot be successfully carried on without these assessments. We have to pay the reporter, and to pay for the publication of the Transactions from $425 to $450 each year. We have to pay the expenses of mailing; the Secretary pays some $30 or $40 for postage. This work cannot be done without money. There is no member who will furnish time and postage to transact this business without pay. It cannot be done. These things must be looked after, to secure the success of the Society.

Dr. Ingals.—Is there anything unpaid?

Dr. Fitch.—There are debts unsettled. I may state, that it has only been within the past three or four years that we have been able to pay expenses. We have been obliged to allow Dr. N. S. Davis to use the matter of our report for his Journal, thereby destroying the interest that members had in the Transactions themselves. We have been obliged to let him use this matter, and then publish the Transactions, to save expense.

Again, for the last few years, the members of the Society—those who have received the Transactions—know very well that they have been quite largely illustrated by cuts. It adds much interest to the Transactions to have them thus illustrated. This costs money. Hitherto, in a great measure, the expense has been paid by the members who have written the papers illustrated; and it is a heavy burden upon them. I think the Society has never paid for those cuts more than from $3 to $5, and I know of persons who have read valuable papers, and who have paid $70 for the illustration of a single paper. The Society has been asked, on several occasions, whether it would pay for these illustrations. It ought to be done. We should not ask any man to pay for his illustrations. Last year, the question was brought before the Society, and was referred to the Secretary and the Treasurer, with power to act. They failed to pay anything, however; for the reason, that there was not money in the treasury to pay for illustrations. The Fergus Printing Company has a bill of $25 for an illustrated paper, published last year, which has not been paid, and it stands against the Society. And yet the article was prepared by one of the younger members of the Society, who was not able to pay for them himself. We have not been authorized to pay the bills for these cuts. The Society cannot be sustained with less money than

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has been heretofore raised, and it ought to have more if we pay for the illustrations, which, I think, the Society ought to do.

Dr. Ingals.—I think we should have all the money we want, and the only thing I say is that we should not waste time in discussion.

Dr. Walker.—I think the old plan is best—men who owe back dues, should pay them without any gas about it.

The President.—For twelve years successively it has been your pleasure that I should act as your Treasurer. The first four years we were in debt. It took the annual assessments to pay the back dues for the next five years. Then we had 50 cents balance; then $3. Three years ago we had a balance of $380 after all bills were paid. And it seems as though matters ran so smothly that they hardly required any attention. The increased expense has been caused by the reporting of the Transactions, which has enlarged the annual volume till, instead of a cost of $200, the Transactions cost $400, and are creditable to the State and an honor to this Association; and the question is whether we are going to continue its publication. With 15 cents a copy more we could have the Transactions bound. I have written to Dr. Slater and to other members of the Society urging the payment of their assessments. In many instances the invitation has been responded to and in others it has not. We are now within $50 of having an empty treasury, and we shall be bankrupt if we go on in the way we are going. How shall we raise the most money, and in the best way?

Dr. Whitmire.—The vote taken a little while ago, exempting every man from paying his dues, was one of the worst things we could do. I have paid my dues for many years, right along; but when you come to a man and ask him to pay his $2, and his $3 assessments, he will stay away, and will take no interest in the Society. I do not believe in that kind of work.

Dr. Hay.—If a member, by failure to pay his dues for five years, ceases to be a member he must start *de novo*. It seems to me that the by-laws determine his status. He must begin again. He is no longer a member.

Dr. Albin.—That is just the point, I know very well, as I have received the circulars year after year. I am aware that every time I responded with the money I received the Transactions. There is nothing in the world for delinquent members to do but to come in like new members.

Dr. Prince.—I do not care which way the question is decided. I should prefer the abolition of the initiation fee altogether.

The President.—The question will first recur upon the amendment, that the initiation fee shall be put upon all individuals who have not been present at a meeting or paid an annual assessment for a period of five years.

The amendment was unanimously adopted, and Dr. Prince's motion, as amended, was adopted.

Dr. Massie.—Just let me be out of order for a moment. I wish a copy of the Transactions sent to me, but I don't wish it understood that I am to be thrown

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out if I do not pay—I don't wish to receive a menace. I don't want circulars sent to me, stating that if I don't pay I will cease to be a member.

Dr. Foote.—I voted against the adoption of the resolution as amended, as explained by the President. Did I understand correctly or not, the effect of the motion as amended? Is any person who has lost his membership to come in again without re-payment of the initiation fee?

The President.—The motion of Dr. Prince was that there should be one initiation fee. The Amendment, that there should be another if the first membership was lost. The action upon the Amendment being in the affirmative, the motion of Dr. Prince, as amended, would be that the member losing his membership should be initiated under the rules. This is the action of the Society.

Dr. Fitch moved that a recess of 15 minutes be taken to allow the members to present their credentials and pay their assessments. The motion prevailed.

At the end of the recess the President called the Association to order, and Dr. Fitch moved that Dr. Ingals and Dr. Albin be added to the Board of Censors *pro tem.*—two of the members being absent. The motion was carried.

The Secretary announced names proposed for membership, as follows: T. Van Welch, Jacksonville; Robert W. Crothers, Delevan; Lucinda H. Corr, Carlinville; Sarah Hackett Stevenson, Chicago. Referred to the Board of Censors.

The Secretary read a letter from Dr. J. T. Curtiss, representing that the delegates from the Jersey County Medical Society ought not to be received without investigation. The matter was referred to the Board of Censors.

Dr. Van Horn said there was a delegate present from the Society in question, who would report for the County. He had already been admitted to a seat.

The President said the delegate, from respect to the Society, would hold himself as unadmitted until the report of the Board of Censors upon the question of the letter of Dr. Curtiss.

The President called the roll of the Standing Committees. When the Committee on Practical Medicine was called, the Chairman of the Committee being absent, Dr. Hay said he was the bearer of a communication from Dr. Hamill, which

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expressed a hope that the Doctor would be present and read a paper.

Dr. Powell said Dr. Hamill would be here.

Dr. Fitch.—The object of the calling of the roll of Committees is to set a time for each report.

A member moved that the report on Practical Medicine be set for 9 o'clock on Wednesday. Carried.

The Committee on Surgery was called.

Dr. Powell, Chairman, said he was ready with a report, and would present it at any time the Society might choose to hear it. An abstract had been prepared.

On motion of Dr. Worrell, 10 o'clock on Wednesday was set for the report on Surgery.

The Committee on Obstetrics was called.

Dr. Fitch responded that he had received a communication from the Chairman of the Committee saying, he would not be able to report. Dr. Horner said he would prepare a report and be here at this meeting.

Dr. Peirce.—Dr. Rood, a member of this Committee, handed me a manuscript, which he desired me to read, if the Chairman did not make a report. I can present it to-morrow.

It was ordered that it should be read after the report on Surgery, if there should be time.

The Committee on Drugs and Medicines was called.

Dr. Fitch said Dr. Quine, its Chairman, informed him that he might not be present. If he came, he would have a short report for the Society.

The Committee on Necrology was called.

Dr. Ingals, its Chairman, said: I do not know what the other members of the Committee have, but my report is ready for submission at the pleasure of the Society.

On motion of Dr. Worrell, it was placed on the programme after the report on Obstetrics.

The Committee on Ophthalmology had no report.

When the Committee on Publication was called, Dr. Fitch suggested that it should come in its natural order, near the close of the session. It was so ordered.

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The roll of the Special Committees was next called.

Dr. Hamilton, the Chairman of the Committee on the Diseases of Children, said: I have not heard from Dr. Earle, but there will be a report read at any time the Society may deem proper to hear it.

Dr. Fitch.—I have a report from Dr. Earle. I move that the report be read at 7½ o'clock this evening.

Dr. Worrell.—I had hoped that the matters of business that would come before the Society, at its evening sessions, would be such as would have some popular interest; and would entertain the citizens who would be likely to honor us with their attendance. I do not know that this subject would do it. I am inclined to think it would not.

Dr Frazer.—There is a popular address set for Wednesday evening.

Dr. Worrell.—I suppose the citizens would be glad to see us two nights. [Laughter.]

The President.—The question before the house is this: Shall this special report upon the Diseases of Children be set for 7½ o'clock this evening?

The question was carried in the affirmative.

The Special Committee on Diseases of the Respiratory Organs was called.

Dr. Fitch.—I was informed on the cars that the Chairman, Dr. Johnson, would have a report here.

Dr. Curtis.—Dr. Johnson informed me that he was prepared to report, and would try to have his report here—a short report on some 200 or more cases of phthisis; and also with relation to diphtheritic inflammations of the respiratory passages.

The Special Committee on Galvano-therapeutics was called, Dr. Prince, Chairman.

On motion of Dr. Worrell, it was placed on the programme for Tuesday evening, after the report on the Diseases of Children.

The Special Committee on Diseases of Women did not respond.

The Special Committee on Diseases of the Nervous System was called.

Dr. Whitmire, the Chairman.—I do not feel competent to prepare a report, such as would, in my opinion, be a credit to the Society. Hence I asked Dr. Jewell to make the report, and I suppose he has prepared one.

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The matter was referred to the Secretary.

The Committee on Jurisprudence, Dr. R. J. Patterson, Chairman, was called, but no response was made.

The Committee on Dermatology, Dr. Charles G. Smith, Chairman, was called.

Dr. Fitch.—I received a note from Dr. Smith, stating that he would not be able to report this year.

The President.—Are there any other Committees to report, or any Special Reports to be submitted for action at this time?

Dr. Fitch.—There is a communication from Dr. Niglas. I do not know but he is a member of the Committee on Surgery.

The President.—He is not.

The Secretary read the communication from Dr. Niglas.

The Secretary said, Dr. Niglas was an officer of the Board of Health of the City of Peoria, and had submitted resolutions for the consideration of the Society, as well as a paper on Hernia, which should probably come from the Committee on Surgery.

Dr. Freer moved that Dr. Niglas's paper and communication be referred to the Committee on Surgery.

Carried.

Dr. Freer.—I have a volunteer paper, on the subject of Transfusion of Blood, which I should like to have time to present.

The President.—I am glad the subject is announced. Dr. Freer is ready to make the report when the Society shall have time. We have now two hours.

A member moved that the report be received at once.

Dr. Freer.—The proper instruments are at the hotel.

The President.—Are there any other volunteer papers?

Dr. Peirce.—I have prepared a paper on Fractures, including the legal rules of malpractice bearing upon these questions, which I am prepared to read any time after to-day.

The President.—We are deferring the heavy burden of our work till to-morrow. Would Dr. Pierce be willing to report this evening?

Dr. Peirce.—Yes, sir.

The President.—The paper is so assigned. I would like to inquire of Dr. Freer if his arrangements preclude a demonstration at the evening session?

Dr. Freer.—It would be very inconvenient to exhibit at night, as it requires

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an exposure of arteries and veins. If we could have it in the daytime I would make a demonstration.

Dr. Worrell.—I hope the evening hour will be fixed for this lecture and demonstration, and that notice will be duly made, so that the citizens may have an opportunity to witness them.

Dr. Fitch.—It has been suggested, and talked over between the Committee of Arrangements and the officers of the Society, with regard to the propriety of performing this operation upon the living animal immediately following Dr. Hollister's lecture to-morrow evening. Dr. Freer will make a few remarks and illustrate the process of transfusion. Perhaps it would be better to set the reading of the paper at some other hour.

Dr. Freer.—It is almost out of the question to think of performing the operation in the evening. I do not think the public would be so very much interested —they do not understand the bearing and importance attending such vivisection. It requires, moreover, a patient audience, to wait for the different manipulations. I would not like to perform for the benefit of the public, but for the benefit of the Association.

Eight o'clock to-morrow morning was suggested.

Dr. Freer.—Eight o'clock is pretty early for me; but if you can get things ready I have no objection.

Dr. Worrell.—As an amendment, I move that the arrangements for the demonstration be made between Dr. Freer and the Committee of Arrangements.

Carried.

The President.—I would suggest to the Committee of Arrangements that a statement in the papers, of the hour and the subject, would draw in a good many interested in this subject.

Dr. White, of Bloomington.—Just as I was leaving home yesterday, Dr. Gray handed me a paper on Small-Pox and its Treatment, and requested me to submit it to the Society and have it referred to the Committee on Publication. It contains some resolutions that he wished to offer in regard to compulsory vaccination in all public institutions. I have not the paper with me, but I will read it or offer it in some other form, according to the wish of the Society.

It was referred to the Committee of Arrangements.

Dr. Hamilton.—I have a paper on the Climatology and Diseases of Jersey County.

Referred to the Committee of Arrangements.

Dr. Whitmire.—In regard to Dr. White's suggestion: it is not a question before the house—we do not propose to receive any communication from any one who is not a member of this Society. That is all I have to say.

Dr. Worrell.—You do not propose to take any light unless it comes from the East. [Laughter.]

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Dr. White.—Dr. E. W. Gray is a member of this Society.

Dr. Fitch.—And a very worthy member, too.

Dr. J. P. Johnson.—I have in my hand a letter addressed to this meeting by Prof. Sanders, who wishes it read, and respectfully asks the action of the Society before you adjourn this morning, in view of making the necessary preparations to carry out the proposition contained in the letter.

Dr. Walker.—I have a paper on the Treatment of Scarlatina.

On motion, it was made the next order of business.

Dr. Fitch.—Dr. Rumbold, of St. Louis, who was with us last year, a delegate from the St. Louis Society, has a short report on the Functions of the Uvula.

The President.—Dr. Rumbold, of St. Louis, is welcomed by the Association.

Dr. Worrell moved that Dr. Rumbold's paper be received and read at the convenience of the Society. Carried.

Dr. Fitch.—I would state that Prof. Curtis, of Chicago, has a paper on the Anatomy of the Serous Membranes as affecting their Pathology.

It was received, and, on motion of the Secretary, was assigned to follow the paper of Dr. Walker.

The Secretary read a communication from the Esculapian Medical Society, submitting a paper, prepared by Dr. William Massie, on Insanity.

A motion was made that it be read on Thursday morning.

Dr. Fitch.—We will be obliged to do business on Thursday morning. It is better to complete the work without hurrying, as we did at our last meeting.

Dr. Steele.—Dr. Massie is here—now is his time.

Dr. Birney.—I wish to state, in connection with this matter, that if we undertake to hear the reports before Thursday morning, the majority of the members will be slipping off and going home, and will leave an amount of business to be disposed of on Thursday morning, and no person to dispose of it. This was the case last year. The Society should be continued on until Thursday evening. I move that the report of Dr. Massie be received on Thursday morning.

Dr. Hamill, of Chicago, said the Committee on Theory and Practice of Medicine would be ready in a few minutes.

The President.—It has been assigned for to-morrow.

Dr. Birney.—If it is preferred, Dr. Massie can be here. I move that his paper be received to-day.

The President.—It is moved that, if time permit, we hear the report of Dr. Massie to-day. Carried.

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The Secretary read a communication from Prof. W. D. Sanders, of Jacksonville, (representing the Faculty and Managers of the Illinois Conservatory of Music,) offering a musical soiree in honor of the Association.

The President.—You hear the proffer made by Prof. Sanders; what is your pleasure?

Dr. Whitmire.—We, of course, feel grateful for any pleasure that may be given us, but I want to say that, while I feel grateful for this offer, I do not think it is best that we should accept. We should do our duty as men. We came together for the purpose of mutual improvement, and, while I am perfectly satisfied that music is one of the great accomplishments, I propose to teach my boys to take care of themselves, and shall not insist on their learning music. I would rather teach them mathematics, philosophy, and grammar.

The President.—I understood you rose to make a motion.

Dr. Skinner.—I move that the invitation be received, and that we set this evening for the entertainment; and if there are any M.D.'s who have no music in their souls, they can stay away.

Dr. Worrell.—This thing will be adapted not only to entertain us, but the citizens of this delightful place; and as the address of the President will not occupy much time, it seems to me there will be time to have this entertainment to-morrow evening. The Professor is a distinguished citizen, and I am sure we shall be entertained, as it will bring together the beautiful ladies of this city, whom we shall all be delighted to see.

Dr. Slater.—I wish to suggest that Prof. Sanders be invited to entertain us to-morrow evening—to give us some music before the address, and afterwards occupy such time as may be thought proper.

The President.—My address will not occupy more than forty minutes. The Committee of Arrangements should have this matter under their advisement.

Dr. Wilbur.—I was going to suggest that the Society will be so thoroughly occupied that we can hardly find time for this amusement. The business of the Association will fully occupy the time, and we have made no room for the concert in the programme.

Dr. Birney.—It will not interfere with the business of the Society, and consequently I favor the motion of Dr. Worrell, that the music be immediately after the address.

Dr. Hamill moved that the communication be referred to the Committee of Arrangements, with power to act.

Dr. Worrell.—I accept that as a substitute for my motion.

The President.—The original motion is withdrawn, and the motion as it now stands is, that the question of the entertainment be submitted to the Committee of Arrangements, and that they may report as seems to them best.

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Dr. Johnson.—Inasmuch as it is necessary that those who will participate in this matter of music will require some time to make the necessary preparations, I would suggest that the Committee of Arrangements be instructed to report at as early a period as possible to Prof. Sanders.

The motion of Dr. Hamill prevailed.

Dr. J. P. Walker then read his paper on Scarlatina; as follows:

NEW PLAN OF TREATMENT OF SCARLATINA, AND HOW TO PREVENT ITS SPREAD.

By J. P. WALKER, M.D., Mason City.

Having, during a number of years, been dissatisfied with the results from the treatment of this disease, as laid down in the books, and finding but little encouragement for successful treatment of the malady in our periodicals, I concluded, long ago, that some different plan of treatment must be discovered, or thousands of the unborn generations must come into the world in vain.

More than twenty years have passed since I began to look among our common remedies for some drug, or some plan, or some combination of drugs and management, that would help to lessen the terrible mortuary lists following the trail of this most fatal complaint. About this time, I found the German plan of greasing the patients—which, indeed, is a wonderful addition (simple and dirty as it may seem) to our old treatment.

Later, I have found a drug, which appears to possess the most remarkable powers over the whole course and sequelæ of scarlatina, as well as many other specific diseases, *viz.*: *Iodide of Potash.* I cannot take time to describe the various epidemics of scarlatina that I have witnessed, but confine myself in these few pages to a general statement of facts, noted by myself and students, Drs. J. W. Spear and J. H. Walker, during the years of 1873 and '74, in Mason, Logan, and Menard counties.

During the time above mentioned, we met over two hundred and fifty cases of *scarlet fever*, varying from the most

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malignant to the mildest possible forms of the disease; of these, not one proved fatal, where the method of treatment hereafter given was adopted at the onset of the complaint, and the attendants followed our directions; and very seldom did we have more than one case—the first—fully developed in that vicinity.

I am fully convinced that the means ordered and carried out, with the view to *prevent* the *spread* of the disease, were of much more importance to the community than any treatment that could be adopted, *even* if such treatment were known to be a certain cure in every case.

Without entering into the many theories concerning the origin, pathology, and communication of the disease, I shall at once give a short description of my plan of treatment, leaving to more scientific heads the theoretical part of the work.

When called to a child, say from one to five years of age, with high fever, swelling of the glands of the throat, scarlet redness of the skin, etc., I at once order the whole body bathed in a warm solution of carb. soda, and soaked from the crown of the head to the ends of the toes with old salt bacon grease, and give the following: ℞.—Potass. iodide, ʒj.; syrup scilla, f ℥ij.; tinct. verat. viride, gtt. iij. M. Sig. Half a teaspoonful, more or less, according to age, every second hour, until the temperature is greatly abated; the doses to be gradually decreased. At the same time, I order a piece of fat, salt pork applied, from ear to ear, around the throat, heated as much as can be endured, which is to be taken off, heated and reapplied every third or fourth hour, and a saturated solution of common salt, in equal parts of cider vinegar and honey, to be used as often as possible as a gargle. Those are all the applications I have found necessary, either internally or externally, to the throat, in any case that I have treated during the past fifteen years.

I have not had one case of abscess about the throat, nor one of disease of the ears, nor one of dropsy, during the fifteen years that I have been following this plan, when the

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treatment was commenced early and well followed. But in a very limited number of cases, that were so slight that they required the use of a thermometer to detect a fever, with the slightest possible sore throat, the treatment was discontinued in spite of my warnings, and I had general anasarcous effusions, all of which yielded readily to the iodide of potash and squills, with general chalybeate and vegetable tonics.

Whensoever, of course, I find complications, I treat them as each case may require. The most usual complication is of malarial origin, which, of course, must be combated early and late with quinine.

While the foregoing treatment is being carried out, I order every member of the family, and whomsoever else is exposed, to take, according to age, from three to twenty grains iodide potash, daily, until the desquamation is completed, in every case where the rash had appeared.

Believing that the disease is communicated by or with the disquamation, I keep the skin of the patient saturated with grease or oil, until it has acquired its natural appearance.

The particles of the desquamation being mixed, covered and satured with the oil, it is impossible for them to circulate through the air, on account of the specific gravity of the oil. This has proven so perfect a preventive that I have known the disease to be confined entirely to one room of a large house, where more than one family of several children resided.

Last spring, in consultation with other physicians, I saw several patients in a dying state, and found in the house four or five others, just taking the disease, in the same manner as the first. While the former all died of suffocation, congestion of the brain, or of the lungs, the latter, subjected to my method of treatment, without exception, speedily recovered.

The oils prevent the distribution of the poison through their specific gravity, and the iodide of potash prevents one taking the disease by meeting and destroying the poison in the blood.

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The President.—The next paper in order is one by Dr. Curtis on the Anatomy of the Serous Membrane as affecting their Pathology.

Dr. Curtis read the paper, as follows:—

SOME POINTS IN THE ANATOMY OF SEROUS MEMBRANES, WITH THEIR BEARING ON PATHOLOGY.

By LESTER CURTIS, M.D.,
Professor of Pathology in Woman's Hospital Medical College, Chicago.

Inflammations of serous membranes differ in several important particulars from similar affections of the skin or of mucous membranes. The severest inflammation of the skin or mucous membranes, as for instance, a purulent ophthalmia, never results in adhesion of the opposing surfaces; and physiologists have often exerted their ingenuity in vain to cause a closure of some of the natural outlets of the body; but the slightest inflammation of the pleura, or peritonium, is almost sure to be followed by adhesions.

Again, the skin, or mucous membrane, rarely contracts after an inflammation. An inflamed uvula, for instance, often enough becomes relaxed, but I doubt whether any one ever saw a uvula contract from inflammation. An inflammation must be severe, and extend deeply into the tissues beneath, in order to cause contraction of amucous membrane. The most trifling inflammation of the valve of a heart may result in contraction that will render it incompetent, and make its owner an invalid for life.

I have searched in vain in the text-books for an explanation of these facts, and yet they are simple enough when we understand the anatomy of the parts. Allow me, then, to direct your attention to a few of the points of difference between the ordinary pavement called mucous membrane and serous membranes. I shall limit myself in my consideration of serous membranes to the plural surfaces, the pericardium and endocardium, and the peritoneum.

On a superficial microscopical examination of the above-mentioned serous and mucous membranes, they appear very

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similar. They both appear to be made up of flat plates joined at the edges, each plate containing a nucleus near the centre; these plates are the cells.

On closer examination of the membranes, we see certain well-marked points of difference. The cells of the mucous membrane are darker at the centre where the nucleus is situated and gradually shade off from this point to the periphery, and all the cells are constructed on the same general plan. If we tear off one or more cells from their attachments their appearance is not altered. A perpendicular section through the nucleus of one of these cells shows it as a spindle with the nucleus in the centre and both sides alike. The cells of the mucous membrane, therefore, are homogeneous polygonal discs, thin at the edges and thicker in the middle; and in this thickened middle portion, the nucleus is imbedded.

The cells of the serous membranes, on the contrary, do not all resemble each other. They are more or less granular, and in many parts the granular matter does not shade off from the nucleus to the periphery of the cell, and the junctions of the cells look like delicate lines drawn between the nuclei upon the uniform surface of the granular matter. Sometimes more or less of the border of the cell is marked by a white zone, in which, as a faint trace, is seen the line of junction with the neighboring cells. Occasionally, are seen between the cells, what appear to be holes, but by careful examination it is found that they are not holes, but are covered by a delicate membrane, on which may often be seen the faint line of the cell junction. I do not refer now to the stomata which are found in serous membranes, but which have a different appearance. By careful manipulation, the membrane which is spread over these holes and zones, can sometimes be detached from the parts beneath, when it is found to be thin, nearly transparent, and apparently structureless; the nucleus and the granular matter is left behind.

A perpendicular section through the nucleus of one of these cells, instead of showing two curved sides, as in the case of the mucous membrane, shows one side straight and the other

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curved; on the curved side is the granular matter and the nucleus—on the straight side is the transparent homogeneous layer, above described. These two layers separate without any great difficulty, and after separation, the granular layer is disposed to contract, and adheres to the parts beneath.

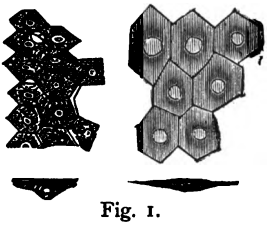

Fig. 1.

The figure at the right shows the appearance of a frog's epithelium, seen under the microscope; the figure beneath is a perpendicular section through the nucleus of one of the cells. The figure to the left shows the appearance of a serous membrane; on the right border, near its centre, a cell has been torn out and the superficial layer is seen projecting over the granular layer, which has contracted; just below this is seen a cell surrounded by a white zone, and to the left are seen the appearance of holes covered by the superficial layer.

We have found, then, that the mucous membrane is composed of cells which are homogeneous, and the nucleus of which is imbedded in the centre; while the serous membrane is composed of cells which are made up of two parts: the upper or more superficial portion of the cell of the serous membrane, though thin and transparent, is tough and hard; the deeper portion is soft and granular, and contains the nucleus; these two parts separate easily, the lower adhering to the parts beneath.

We now can understand that the appearance of zones and holes, which were seen in the superficial examination of serous membranes, was caused by a separation of the two layers, and a contraction of the under layer. These two parts make up the single layer of which serous membranes consist.

These points appear to have received little notice from histologists. Klein, the writer on serous membranes, in Stricker's cumbrous Manual, only states that "serous membranes are lined by a single layer of epithelial cells, the nucleus of which is *generally* situated eccentrically." He is no more explicit in his monograph upon the same subject; in his Hand-Book for the Physiological Laboratory, he says: "By reason of the homogeneity of the protoplasm, the endothelium is with difficulty brought to view in the fresh state,"

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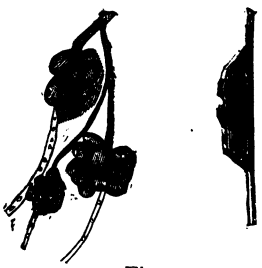
which, if it means anything, seems to mean that the cells of the serous membranes are homogeneous, which is not true. I have not been able to discover any, but the most cursory, notice of the subject in Frey's new work. Rindfleisch alone, of all the writers to whom I have had access, gives the correct statement of the facts; and even he does not attach the importance to them which they seem to deserve.

And, now, as to inflammations of these membranes. When a serous membrane becomes inflamed, there is exuded from the blood-vessels of the part, a substance to which, for want of time to explain a better term, I shall give the obsolescent term of coagulable lymph. This coagulable lymph varies in quantity according to the severity of the inflammation—the more severe the inflammation the more exudation there is. As this exudation tends towards the point of least resistance, it is poured out under the superficial layer of the serous membrane which it dissects up, forming, when the inflammation is beginning, minute nodular elevations, just visible to the naked eye of one with good eyesight. These nodular elevations resemble minute blisters; they contain coagulable lymph, and are covered by the superficial layer of the serous membrane which has been lifted from the deeper layer, just as a blister on the skin contains serum, and is covered by the epithelium which has been lifted from the parts beneath.



The figure on the left shows the nodular elevations seen from above, with the congested blood-vessels leading to them and the emptied blood-vessels leading from them. The figure on the right shows an ideal section through one of these elevations, with the membrane covering it.

Fig. 2.

The inflammation may, perhaps, be so slight that these nodular elevations do not rupture; but, usually, they grow and meet others on each side, and the membrane covering them is torn off, leaving a denuded surface beneath. This

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surface becomes a granulating surface, and the healing is attended with the phenomena of other granulating surfaces; if it comes in contact with other granulating surfaces it adheres to them; and in healing, it is covered with cicatricial tissue, the nature of which is, of course, to contract.

In inflammations of mucous membranes, there is, of course, an exudation from the blood-vessels. This exudation may surround the epithelial cells, or even penetrate into their substance, but it is only in exceptional cases that it detaches them. Consequently, an inflamed mucous membrane does not present a granulating surface to adhere to other mucous membranes, and to become covered with cicatricial tissue, and to contract sometimes; indeed, the epithelium of the skin, or of macous membranes, becomes detached by chemicals, or mechanical violence, or by some other means, as in the case of a burn; and it is just those cases of inflammation of mucous membranes that are denuded of their epithelium that present the phenomena of inflamed serous membranes.

Dr. Birney moved that the paper be received.

Dr. Freer.—When the author states, as a rule, that in the inflammation of the serous membranes, constriction does not follow, I would like to refer him to cases of chronic pleurisy, when the chest is all drawn in and the patient disfigured from subsequent cicatrization of the parietal and visceral layers of the pleura. I would like to ask what he means by coagulable lymph?

Dr. Curtis.—In the first part of Dr. Freer's remarks he entirely misunderstood me. The point I intended to make was, that an inflamed serous membrane always does contract; and that one of the points of difference between the mucus membrane and the serous was, that an inflamed mucus membrane rarely contracts, while a serous membrane always contracts, from inflammation. In regard to the second point, about coagulated lymph, I would rather dodge the question at present, for we should get into deep water if we commenced its discussion.

Dr. Freer.—I do not think the water is deep at all. Coagulable lymph is nothing but coagulated fibrine. Let us have but one name for one thing. There is no such thing as coagulable lymph. Let us call fibrine fibrine, and drop one or the other term.

Dr. Curtis.—The gentleman, if he remembers the expression I used in the paper, will recollect I said the "so-called lymph," and called it an obsolescent term. I do not believe in the existence of coagulable lymph; but do not wish to go into a discussion of the question.

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Dr. Freer.—I would like to hunt out of the technical vocabulary that expression, "coagulable lymph."

The President.—Will Dr. Freer presume to substitute the simple term fibrine, in all instances?

Dr. Freer.—In all instances where there is effusion; and the result of effusion is a substance that seems to have come from the change—that what was previously fluid becomes coagulated; the proper name for such product is fibrine. In healthy blood it is in a fluid state, but, being placed in unnatural conditions, it takes a solid form.

Dr. Worrell.—If coagulum contains more than fibrine, does that not give rise to the necessity of the term coagulable lymph?

Dr. Freer.—Fibrine is the only thing that coagulates. Albumen does not coagulate unless subjected to other influences, as heat or acid. Fibrine is the only substance that coagulates spontaneously.

Dr. Worrell.—I think we understand that when there is not any fibrine there can be no coagulum; but there is a common opinion that coagulum is formed of, but is not, properly, fibrine.

Dr. Foote.—Is it true that this material of exudation is fibrine, and fibrine alone? How is it that when we have fibrine exuded, and it comes in contact with an opposing membrane, the fibrine unites?

Dr. Freer.—It is not fibrine that unites, but the granulated surface.

The President.—I wonder some one does not spring the question of the germinal point.

A Member.—One thing at a time, Doctor.

The paper was referred to the Committee on Publication.

Dr. Massey next read his paper on Insanity.

REPORT ON INSANITY.

By WILLIAM MASSIE, M.D., Grandview, Ill.

The enunciation of the following propositions, which we believe will not be controverted, will, I trust, be a sufficient apology for this paper:

1st. That every practitioner is liable, at any time, to be called upon to give testimony, or advice, in his professional character, involving property, liberty, and even life, based upon his knowledge of mental alienation; and

2d. That the subject of mental aberration is so exclusively monopolized by a few who make insanity a specialty,

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that the mass of practicing physicians are lamentably illy qualified to give the desired information.

If the truths of these propositions can be as deeply impressed upon your minds, as they are upon the mind of the writer, he will have accomplished his object in the present discussion.

And here, on the very threshold of our subject, we meet with a difficulty which has ever perplexed writers on insanity, namely, an unexceptional definition. This difficulty is not an intrinsic one, though intricate it be, from the confessedly recondite nature of the phenomena in question. But it arises from the apparent necessity of framing a scientific definition which shall coincide with a forensic one.

Indeed, the alienist may have quite as clear a conception of insanity as of any other morbid phenomena, though he may find it quite difficult to represent such conception to the mere lawyer, or jurist. If it were the business of courts of justice to inquire into the responsibility of each individual case of alleged insanity, instead of searching for abstract principles, concise definitions, and the rulings and precedents of courts, this difficulty would disappear; though, it must be confessed, that it would not diminish their labor and responsibility. The absurdity of going back to precedents in this matter is the more apparent, when we reflect that mental science is the birth of the century, and is now undergoing the process of shedding those metaphysical dogmas, which have hung for so many ages like a curtain of might around it.

One cannot but be struck with the marked change that has taken place, in very recent times, in the management of the insane. From the habit of turning them over to the tender mercies of brutal jailors, who treated them as the possessed of evil spirits and the accursed of God, the present custom of placing them in asylums, where they are kindly and humanely treated and cared for, has almost the appearance of magic. And it will not be overstating the truth when we say that this beneficent change has been mainly wrought by the medical profession.

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But is there not danger that, in our zeal to ameliorate the condition of the unfortunate lunatic, we defeat the ends of justice?

Whilst we must receive the statement of Prof. Maudsley, that, "had George Fox and Swedenborg lived in our day, the world would have been deprived of their remarkable labors from their confinement in lunatic asylums," as too fanciful to be treated as a serious fact; yet it cannot be denied that there is much in public sentiment to justify such a statement. Nothing is more common than the disposition to throw the mantle of charity over every eccentric character, every visionary reformer or discoverer, by pronouncing him a lunatic. Though it may be justly said that the farce of acquitting sane persons, on the plea of insanity, is the fault of jurors who want a plea to acquit, the further statement is also true that, the wide-spread opinion that the insane should never be punished for their acts renders such a plea possible. For I think that I do not err in stating, that, in the popular mind, the evidence of insanity is at once a sufficient excuse, legal and moral, for the commission of any crime, without ever raising the question whether the crime was the logical outcome of the insanity or not.

But it may be asked, is it not reasonable to suppose that the crimes committed by the insane are the result of the insanity?

Let the following discussion answer. Let us begin with the simplest and most familiar instances:

Now, it is generally admitted that intemperance is the cause, as well as the effect, of insanity, and that delirium tremens is a specific form of insanity, resulting from the prolonged and excessive use of alcohol, or other *stimuli:* and that *mania a potu* is an acute *mania transitoria*, from the direct toxic effects of alcohol. But it has not been so generally admitted that all cases of alcoholic intoxication are cases of temporary insanity.

He methe micra mania esti,—"drunkenness is a short insanity," is an old adage which is as true as it is ancient. In any

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concrete case of alcoholic intoxication, if all idea of the *causation* of the mental phenomena were excluded, no one would hesitate to pronounce it a case of insanity.

If I were to give you the most typical case of intoxication, and then ask you for your opinion of its nature, you would say that the patient was either drunk or crazy. And not until I had satisfied you that he had not been indulging in alcoholic, or other toxic agents, would you feel at liberty to give an opinion which, it is evident, you would have reached by exclusion; and if you insisted upon time, it would be to eliminate the chances of deception or error in regard to the causation of the symptoms.

In drunkenness, the insanity is of all grades; from the mild and innocent exhilaration, to the most furious and homicidal *mania*,—from the moderately well co-ordinated movements of the mental and bodily functions, to the most convulsive movements of both body and mind. Now, of course, this is not insanity, in its legal sense, but it is for this very reason that I introduce it here, for it is nevertheless insanity; and, as such, it illustrates the utter impracticability of framing a definition which shall at once define the degree of responsibility, and meet the demands of justice in each concrete case.

Nor is it necessary for me to point out the inconsistency of the code that ignores drunkenness as a crime, and at the same time punishes, even capitally, the crimes that legitimately flow from it.

Not only is drunkenness a form of insanity, but many mental phenomena, which are regarded as strictly normal, are more properly classed with the phenomena of insanity.

Dreams are manifestly hallucinations; and if our voluntary motor centres were not asleep while we dream, how often would these hallucinations amount to delusions, entailing acts of the most horrible type? Who has not been truly thankful, upon waking, that the deeds he enacted while asleep were only dreams? And how fortunate it is that few dreamers are somnambulists.

How utterly impossible, then, is it to frame a scientific

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definition of insanity, which shall serve as a guide in legal investigation. Although neither voluntary intoxication, or dreaming, is regarded as legal insanity, there is a kind of intoxication, namely, the delirium from the presence of toxic agents in the blood, as in the delirium of fevers that is so regarded. And it is not improbable that such is the case in *mania transitoria*, especially when we take into account vaso-motor phenomena as a cause of perverted mental action, and the *rôle* that toxic agents play in its production. And, when we further regard epilepsy, as we are justified in doing, as dependent upon vaso-motor disturbance, and the suddenness of its accession and disappearance, with its close relationship to insanity,—so close that it is not only known to alternate with it, by hereditary transmission, but also in the same individual, we can see no sufficient reason for denying the existence of *mania transitoria*.

It is worthy of remark that those alienists who express but little sympathy for the insane, as a rule deny the existence of *mania transitoria*, as well as moral insanity, and would, no doubt, reject the notion of alcoholic intoxication as being in any way allied to it. If, as is believed by many, the moral sense is the outcome of the social instincts, strengthened by sympathy and habit, in an individual capable of reflection, it is not difficult to conceive that one of its factors may undergo decay, without the others being materially impaired. For, if the social instincts are not developed, or undergo degeneration or perversion, the individual will necessarily be a moral idiot, morally demented, or morally insane, however capable he may be of reflecting upon his own line of conduct. And, although we may not, with the evolutionists, regard the moral sense as the last and consummate outcome of nature's evolution, we cannot, for a moment, hesitate to class it as the highest part of our psychical nature, and, as such, the first to undergo degeneration.

It is worthy of remark that in senile decay, or the loss of mental power in old age, the moral sense is the first to show signs of failing strength. So in childhood; the genesis of

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this faculty is superinduced upon the social instincts and sympathies, only after the intellectual faculties are matured somewhat, and the child is able to reflect upon the consequences of his conduct: then, and only then, can it be said that the child has arrived at the age of accountability. If the intellectual faculties are not developed, we have an idiot intellectually and morally; for, though such an one may struggle between two opposing instincts without reflection, he can suffer neither regret nor remorse. But, should there be an arrest of development of the moral sense with development of the intellectual faculties, we have a moral idiot. Such a one was, perhaps, Ruloff the murderer. If the moral sense is perverted by disease, we have a case of moral insanity; and if this sense undergoes degeneration, the case is one of moral *dementia.*

Now, what of the responsibility of these several cases?

Before discussing this question, let us enquire what constitutes a legal crime; for we do not wish to trespass upon the territory of the theologian.

It has been claimed that when there was no intention to commit a criminal act, no such act has been committed. "But there is great danger," says Hammond, "of admitting such a construction, for in doing so we place ourselves at the mercy of any individual, who, with strong reformatory ideas, stops at nothing in the way of his good intentions." "Men often with the best intentions do the greatest injury to society." "The most outrageous crimes against society may be justified on the plea of rectitude of intention, as witnessed in the practices of our ancestors in regard to heretics, witches, and sorcerers, whom they burnt at the stake with a purity of intention truly angelic."

The above citations are not very pertinent to Dr. Hammond's argument, for, according to his dicta, crimes are not committed against individuals, but against society alone; and it was society that demanded the burning of witches, sorcerers, and heretics; and, as society is everything, and the indididual nothing, according to Dr. Hammond, the witches,

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sorcerers and heretics were the criminals, and their punishment was just; "for," says the doctor, "it is no valid argument against a law simply to demonstrate its abstract injustice. It must be shown to be injurious to society, in order to be successfully attacked."

Now, if there be such things as witches, sorcerers, and heretics (and society must decide these matters for itself), the good of society demands their suppression. Nor are the doctor's arguments more clear when he says: "It seems clear then, that, as Beccaria asserts, crimes are only to be measured by the injury done to society." For, whilst it may be admitted that the *magnitude* of a crime is, generally speaking, in proportion to the injury done to society, it neither follows that it is always so, nor that the criminal should always receive the same amount of punishment for the same offense. Indeed, our laws and courts admit of mitigating circumstances in all cases; and this involves the whole question at issue, for insanity may be, and is, a mitigating circumstance. And, furthermore, the intention should not be, and is not, ignored, for every court and jury allows this to have weight; and Dr. Hammond admits that the absence of intention, as in accident, no crime attaches.

With the above and other fallacies for premises, and a reference to the obsolete and, to Americans, odious law of attainder of blood, and to the Mosaic law of the visitation of the sins of the fathers upon the children, Dr. Hammond, by a logic peculiarly his own, arrives at the following conclusions: "Looking at the matter, therefore, from a similar point of view, no valid argument can be adduced against the punishment of the insane, even though they be *morally* irresponsible for their acts by reason of *delirium*, *dementia*, morbid impulse, emotional insanity, or any other form of mental aberration."

We are now prepared to find Dr. Hammond quoting an English judge approvingly, who is said to have addressed a criminal thus: "You have been convicted of the crime of murder. It has been alleged in your defense that you were

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actuated by an irresistible impulse. This may be true, but the law has an irresistible impulse to punish you, and it therefore becomes my duty to sentence you to be hanged!" And again: In reference to such lunatics, a distinguished French magistrate observed to Marc, an eminent alienist: "These men are madmen, but it is necessary to cure their mad acts in the *Place des Greve.*"

Returning to the question, What is a legal crime? it is evident that it involves the factor of responsibility.

The judiciary has in all ages attempted to establish a *test* of responsibility of the insane, enunciating such test as a principle of law, by which the jury should be governed in their decisions, when, in fact, the degree of responsibility is the very thing that the jury should decide, as a matter of fact upon testimony.

The test, as laid down by Lord Hale, and subsequently acted on by English judges, has been termed the *wild beast* test, from a decision of Justice Tracy, in 1723, in the trial of Arnold, an undoubted lunatic, for shooting at Lord Onslow, in which he says that the individual who is exempted from punishment "must be totally deprived of his understanding and memory, and doth not know what he is doing no more than an infant, than a brute, or a wild beast." (Maudsley.) Manifestly such a one would not likely do an injury to any one, unless by accident. It is certainly not with such creatures that our asylums are filled.

"It was at the trial of Hadfield, in 1800, for shooting at the King," says Maudsley, "that this doctrine was first discredited. The Attorney General argued for this doctrine. Mr. Erskine, who was attorney for the defense, argued that if such words were taken in their literal sense, no such madness ever existed in the world. He said that, in all the cases that had filled Westminster Hall with complicated considerations, the insane persons had not only had the most perfect knowledge and recollection of all the relations they stood in toward others, and of acts and circumstances of their lives, but had, in general, been remarkable for subtlety and acute-

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ness. There was no doubt that Hadfield knew right from wrong, and that he was conscious of the nature of the act before he committed it. He expected also that it would subject him to punishment, for this was his motive in committing it. Still, it was plain to every one that he was mad, and that the act was the product of his madness."

"But," says Dr. Hammond, "the individual who has sufficient intelligence to know that pointing a loaded pistol at a human being, cocking it and pulling the trigger, are acts which will cause the death of the person against whom they are directed, should be subject to the same punishment for a homicide, as would be awarded for a like offense committed by a sane person."

Chief Justice Mansfield, in 1812, in the case of Bellingham, tried for the murder of Mr. Spencer Percival, held that, "if such insane person were capable *in other respects* of distinguishing right from wrong, there was no excuse. It must be proved, beyond doubt, that, at the time he committed the act, he did not consider that murder was a crime against the laws of God and nature."

Here the wild beast test is abandoned for the knowledge test in the *abstract*. If the accused knows right from wrong in *general*, in the *abstract* he is responsible. Dr. Ray says, in commenting on this doctrine: "The first result to which the doctrine leads is, that no man can successfully plead insanity in defense of crime, because it can be said of no one who would have occasion for such a defense, that he was unable, in any case, to distinguish right from wrong."

"The purest minds cannot express greater horror and loathing of various crimes than madmen often do, their *abstract* conceptions of crime not being perverted by the influence of disease. The *particular criminal act*, however, becomes divorced in their minds from its relations to crime in the *abstract*. Herein, then, consists their insanity,—not in preferring vice to virtue, but in being unable to discern the essential identity of nature between a *particular crime and all other crimes*, whereby they are led to approve what, in general terms, they have already condemned."

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In 1843, Mr. Drummond was murdered by McNaughten, who shot him under the influence of a delusion that he was one of a number of persons whom he believed to be following him everywhere, blasting his character, and making his life wretched. He was acquitted on the ground of insanity. The House of Lords participated in the general alarm, and propounded certain questions to the judges, of which the following is the summary of their answers: "To establish a defense on the ground of insanity, it must be clearly proved that, at the time of committing the act, the party accused was laboring under such a defect of reason, from disease of the mind, as not to know the *nature* and *quality* of the act he was doing, or if he did know it, that he did not know, he was doing what was wrong." Here, it will be seen that, the question of right and wrong is put in reference to the *particular* act with which the accused was charged, and not with regard to right and wrong in the *abstract*, and that at the *time* of committing it.

It would appear further that these Judges, as well as Justice Shaw, of Massachusetts, ruled "that a delusion, to be a valid defense, must be of such a character as, if true, the alleged criminal would be excused." "If I entertain the delusion that a certain person has injured me," says Hammond, "I may be insane; but even if I am, I ought to be punished if I kill him."

"Here is an unhesitating assumption that a man, having an insane delusion, has the power to think and act in regard to it *reasonably;* that, at at the time of the offense, he ought to have, and to exercise, the knowledge and self-control that a sane man would have and exercise, were the facts with respect to which the delusion exists real; that he is, in fact, bound to be *reasonable* in his *unreason*, *sane* in his *insanity*." (Maudsley.)

Here the question of responsibility is barred from the jury, by a supposed principle of law laid down by the judge, who assumes beforehand that the accused possesses the requisite knowledge to render him responsible, thus prejudging the

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case. "Although not a test of insanity, the knowledge of right and wrong is a test of responsibility," says Dr. Hammond; and this he defines not to mean the moral knowledge, or sense of right and wrong, but that it is an offense against the law, or even the capacity to know.

We have sufficiently disposed of this test: but there is a peculiar case of it introduced by Dr. Hammond, from the French, no doubt to strengthen his case. I refer to Jobard, who stabbed the young lady in the theatre, in Lyons, September 15, 1851. The husband, seizing the assassin, exclaimed: "What have we done to you that you should commit this outrage?"

"Nothing," answered the man; "I do not even know you; I am a miserable wretch. Do what you please—I do not wish to escape." "I have killed her to be killed in return," he repeated many times, "to be killed after I have had sufficient time for repentance."

He stated that he had tried to live a religious life, but found himself unable; and, not being able to change his conduct, he resolved to get rid of his life. He said: "I could not think of suicide, for that crime would have resulted in my appearing before God loaded with sins. I therefore determined to do something that would cause me to be condemned to death by the law. I would thus have a sufficient time for repentance, and I was satisfied that I would also obtain pardon of God for all my offenses." He said he had not killed a depraved person, because that would have sent one unprepared for death into the presence of God. He had thought of killing a priest, just after he had celebrated mass. Accident had led him (from Dijon) to Lyons; here the opportunity and victim were at once offered him.

"I wish," he exclaimed, during one of his interrogations, "that I could have been condemned to death for some trifling offense; I regret having been obliged to commit murder. It was, however, necessary. I regret this necessity."

On the 18th, three days after the commission of the offense, he declared that he had always understood that his crime was

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one for which he was responsible, both to God and man; "but," he added, "my character was weak, impressionable, and changeable. When I prayed, I prayed like a saint; an instant afterward sin claimed me, and I delivered myself without resistance to my false ideas. As to the liberty of acting freely, I was free certainly; and I would have stopped had I been able to comprehend the falsity of my reasoning. My action was criminal, I know, and I went on toward it without reflection. If I could have thought correctly, if I could have confided my thoughts to some one, and been advised, I would never have committed the deed." Then he added: "The course of my ideas is very different to-day from what it was yesterday. To-day, if I could go back, I would not do what I have done. I begin to see things differently." One night, while in prison, he had the hallucination that his victim appeared to him. He complained of headache; his vision was confused; thought of every kind gave him pain in the head, and he had a profuse hemorrhage from the nose, after which he felt better.

The jury found a verdict of guilty, as to the homicide and premeditation, but with extenuating circumstances. He was then condemned to imprisonment for life at hard labor. He remained incapable of fixing his attention, and continued to suffer from pain in the head.

By all the tests laid down, this man should have suffered death, and would have so suffered had not the jury brought in the "extenuating circumstances," which saves the culprit's life in France. "And yet," as a critic in *The Medical Times* remarks, "what a seemly sight to see such an insane criminal rejoicing at the gallows, thanking the sheriff and his minions for their aid in carrying out his designs,—in the wild delirium of delusion resigning his soul into the hands of his Maker, as the law launched him into eternity."

"Some of the insane," says Dr. Hammond, "are such monsters of *depravity*, that they should be slain, upon the principle that we slay wild and ferocious beasts;" and instances the Alton murderer.

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Now, we protest against this phraseology; for *insanity* should not be confounded with *depravity*. Some persons are so depraved, that it were charitable to consider them insane. Such an one was Ruloff, whose attorneys wished to set up the plea of insanity; but his mind was singularly clear. He was a very intellectual man, but he was shockingly depraved; and for such the law is especially made. Can one who is not wholly devoid of moral sense, and who is at the same time perfectly sane, speak of slaying a fellow-being as a wild and ferocious beast, because he is stricken with a terrible malady?

The case of Jobard, above cited, would be doubly barred from mercy, according to the quality of Dr. Hammond's mercy; for he says: "Beliefs as regards matters of faith, no matter how much they may be at variance with common sense and the opinions of mankind at large, cannot be considered delusions in the strict sense of the term, because they do not admit of either proof or refutation. They are not concerned with matters of fact, and should never therefore be held to acquit of responsibility for crime, however absurd they may be."

Such ruling would be to prejudge the case, by assuming that there is one point, at least, upon which it is impossible to be insane. The reason assigned is most absurd; for no delusion can be proved or disproved, so far as the deluded is concerned, if he be insane. Nothing is more real than the delusions of the insane. To them they are matters of fact.

The question is not, has the party a superstitious or absurd delusion? as appeared to have been the case with Anderson, who murdered James Marchin, one of the crew of the ship Raby Castle, under the impression that he was a Russian Finn. According to the superstition among sailors, a vessel cannot safely make her voyage with a Russian Finn on board. This Anderson, who is represented as being of eccentric habits and weak intellect, appears to have been laboring under a superstitious delusion, just as our forefathers were when they burned witches.

But the question is, has the accused an insane delusion, the

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product and outcome of mental disease, and is the crime the product and outcome of this delusion? If so, it matters not whether the delusion is in reference to matters of faith or matters of fact, he should not be held as responsible as though he had committed the act while sane.

There can be no question but that the insane may commit crimes that are entirely independent of their peculiar mental disease. They may be actuated by passion or avarice, just as sane persons are. Jealousy, revenge, etc., may lead to the commission of crime in the insane, for which they should be held responsible. Hence the statute of the State of New York, which enact that, "no act done by a person in a state of insanity, can be punished as an offense," prejudges the case, by assuming to decide upon a matter of fact that should be determined by the jury upon evidence.

"If the tests of insanity," says Maudsley, "are matters of law, the practice of allowing experts to testify what they are, should be discontinued; if they are matters of fact, the judge should no longer testify without being sworn, and showing himself qualified to testify as an expert."

In conclusion, we may safely adopt the language of Dr. Maudsley, when he says: "Physicians have no right to interfere in the administration of the law, which is the judge's function; nor is it their duty to decide upon what is necessary to the welfare of the State, that being the legislator's work."

But they are, certainly, the only qualified parties to decide the existence of insanity; for "insanity is only a manifestation of disease of the brain." And the alienist who has made the study of both normal and morbid mental phenomena a specialty, is certainly entitled to speak with more authority in reference to the dependence of certain acts on morbid mental action, than one who has not given these subjects much consideration.

Much has been said about morbid and normal will, and voluntary and involuntary acts. Unquestionably, very few acts of the insane are involuntary, or purely automatic: so few,

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perhaps, that if such acts only were regarded as criminal, the jurisprudence of insanity would be very simple. And, if anything more is meant by will than the conscious execution of the judgments of the reason, or of the impulses of the passions and emotions, I must confess that I have no just conception of will or of volition. And, if these views are correct, morbid will is nothing more than the conscious execution of vitiated judgments, from faulty or morbid reason or intellection, or of the impulses of diseased passions and emotions. Much, then, of the facts which properly come before the jury in a case of the jurisprudence of insanity, must necessarily be presented by the medical expert.

How important, then, that we be fully armed for every emergency, to the end that justice may be meted out, and that the opprobrium which now circles round the name of a medical expert,—part of which I fear is just and much of which I know is unjust,—may be wiped out.

Dr. Worrell.—We do not like to be invidious, and I move that the paper be referred to the Committee on Publication. I have been exceedingly pleased with the paper.

The motion prevailed.

The Chairman of the Committee of Arrangements reiterated the programme for the afternoon.

The Secretary read the names of proposed members, as follows:—

W. H. Winterbottom, John M. Kinney, J. N. Allen, J. W. Cox, and Robert Brooks. They were referred to the Board of Censors.

The Secretary announced that the Committee of Arrangements had considered the offer of Prof. Sanders, of the Conservatory of Music, and would report that the want of time would prevent the acceptance of the entertainment. The Committee recommended the tendering of the thanks of the Society for the generous offer of Prof. Sanders. The report was accepted and adopted.

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The Board of Censors reported in favor of the admission to membership of the following-named:—

A. T. Bartlett, Verden, Alex. T. Darrah, Tolono, C. B. Johnson, Tolono, Nathan N. Hurst, Streator, John W. Spear, Mason City, Robert W. Crothers, Delavan, T. Van Welch, Jacksonville, Lucinda H. Corr, Carlinville, Sarah H. Stevenson, Chicago.

The report was adopted, and the session adjourned until 7.30 in the evening.

VISITS TO THE STATE INSTITUTIONS FOR FEEBLE-MINDED CHILDREN, AND THE DEAF AND DUMB.

At two o'clock, according to the programme, the Society took the horse-cars, to visit the State Institutions for Feeble-Minded Children, and the Deaf and Dumb, in the Western portion of the city. Having arrived at the first-mentioned Asylum, the members were welcomed by the Superintendent, Dr. C. T. Wilbur, who conducted them to the gymnasium, where they were entertained by exercises, showing the methods of instruction employed, and the progress made in the several grades of the school. Exercises were conducted by Miss Lillie Rockwell, in the first and second readers; in arithmetic by Miss Martin; in geography by Miss Wood, and in calisthenics by Miss Stowe. The exercises were full of interest, showing the results of patient discipline upon the most unpromising human subjects.

From this Institution the members of the Society walked to the neighboring building, devoted to the uses of the Deaf and Dumb. They were warmly welcomed by Dr. Gillett, the Superintendent, and conducted to the chapel, where the pupils, to the number of about 350, were assembled. Here exercises of an exceedingly interesting character were conducted on the part of the Superintendent and his corps of teachers. A number of pupils, under the direction of Prof. Swiler, were called upon to express, in their own words, upon the black-board, the welcome of themselves and their fellow-

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students. This they did with much accuracy and grace of diction. Miss Morse's class gave an exercise in writing; Miss Eadon conducted a class in composition writing; Miss Dunning a class in arithmetic; Dr. Milligan a class in composition, with Sir Walter Raleigh as the theme, and Prof. Swiler a class in higher arithmetic, in which the pupils performed successfully several examples in the extraction of square and cube roots. A little boy named Johnny Hartley gave an interpretation of the sign language, illustrating it by relating a story in pantomime, which elicited the hearty applause of the Doctors. A little girl named Lillie Hawes repeated the Lord's Prayer in the same language, and also the Child's Prayer. Miss Louise Getty and Miss Cynthia Luttrell conversed together in several different ways, to show the diversity of the sign languages that are possible. After looking at some very fine drawings, executed by some of the pupils, short addresses were made by Drs. Wm. P. Pierce, J. W. Freer, and Robert Boal, Superintendent Gillett interpreting the sentences as they were delivered, to the intense delight of the children. The Institution has sixteen instructors, five of whom are graduates of similar institutions. The Association examined the various departments of the magnificent building, and left with a profound impression that the Institution was doing a grand and noble work.

Several members of the Society accepted the tender of carriages made by the citizens, and rode about the city, visiting its points of interest.

Tuesday Evening Session.

At 7.30 p.m. the President called the Association to order and announced the programme for the evening, and also the one for Wednesday morning.

Dr. Hamilton, of Jerseyville, then read a paper on the Diseases of Children, as follows:—

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ON THE TREATMENT OF WHOOPING-COUGH.

By J. O. HAMILTON, M.D., Jerseyville.
Chairman of Committee on Diseases of Children.

To the Illinois State Medical Society:

Mr. President and Gentlemen of the State Medical Society, —Your committee appointed to report on diseases of children are aware: That the condition of the organization, during infancy and the early period of childhood, produces a very considerable modification in character and progress, and termination of the morbid actions that take place in the several tissues, and in the phenomena to which they give rise, as well as in the operations of remedial agents generally, was perceived by many of the older physicians, by whom several elaborate treatises were devoted, especially to the diseases incident to infancy and childhood.

There seems to have been a great falling off, however, in the interest taken by authors of a later day, for "Even in our new text-books on diseases of children, nothing is said in reference to new remedies in whooping-cough and in such recent works as the last edition of Lewis Smith's and Meag's and Pepper's book, the omission still continues," notwithstanding the fact constantly stares us in the face that more than one-half of the human family die before they attain the age of five years. Is it proper that we should turn a deaf ear to the cries and moans of the little sufferers, and close our eyes to the emaciated hand that is extended toward us for help, or turn our backs to those imploring, sunken, and ghastly eyes that are turned toward us for succor and help in their direful time of need? Yet we, by our actions,—notwithstanding we are appealed to in such strong language—hasten past the little sufferer to attend some great and daring exhibition in surgery, and the case of the little child is left to its downward course; if it dies, it was but a child. If by patient study, careful investigation, and the proper administra-

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tion of the proper remedies at the proper time, the child should recover, the telegraph would not be called into requisition to flash the news across the continent, or through the great deep to another continent, or a display of large capital letters at the head of some wonderful article in the first column of the morning papers, setting forth the facts in glaring letters that Dr. X. had been successful in restoring one of these little ones to health.

If Prof. K. Y. succeeds in transfusing the blood of a lamb to some of the canine species, or if some miserable specimen of humanity, whose days are almost numbered, should have his time of misery extended by having the aspirator's needle plunged into the central portion of his lungs, the world stands aghast, and we hold up our hands in boundless admiration.

I do not wish to be understood as thinking or believing that too much attention is given to surgery, but that too little is given to diseases of children.

The subject of whooping-cough has been chosen, because there seems to be so much confusion in regard to its pathology, cause, and treatment, and more particularly to discourage the idea, which is very prevalent among the non-professional, and to some extent among practical physicians, that whooping-cough *must run its course, or has a definite limit.*

This is a very pernicious conclusion, and is unquestionably the cause of much mortality.

If the disease is met in its early stage and treated properly, we shall seldom have the complications of bronchitis, cholera infantum, or cerebral difficulties to contend with. This doctrine should be inculcated in the people, that the earlier the disease is met the fewer complications are to be overcome. No longer ago than last week, I was told by the parents of three children that were suffering with whooping-cough that Dr. W. had instructed them to do nothing for their children's cough, but to *let it run its course;* for if they broke up the cough it would be much worse for the child, for it would be laying the foundation for some fearful disease in the children's systems.

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HISTORY.

It is maintained, by some writers, that whooping-cough is comparatively a modern disease; and some assert that it was first brought to Europe out of Africa in the thirteenth century. By contrasting the works of the ancients, however, it would seem that this disease was known at a very early period of our science,

"Hippocrates, in his sixth book on Epidemics, and also in the sixth section of his Aphorisms, speaks of a cough, which, from the short description he gives of it, may, I think, be regarded as the same affection which is now known under the name of pertussis." "The first distinct and comprehensive description of this malady, however, was given by Mezeray, in the year 1414, in his Chronological History of France. Since that time a great many epidemics of this disease have been constantly recurring."

The importance of a more successful management of whooping-cough will readily be seen by consulting statistics setting forth the great mortality attending the disease at different times in different countries. Thus, in Sweden, during the sixteen years, from 1749 to 1764, 43,393 deaths occurred from this disease alone; and of these 5,832 took place in 1755. (*Rosen.*) In Glasgow, the deaths have been pretty nearly 5½ per cent. of the entire mortality; and in one year (1809) they amounted to 11¼ per cent. (*Watt.*) In Prussian Pomerania, the deaths were as 1 to 25½ of the entire mortality. In Neumark, 1 to 21½. In Brandenburg, 1 to 29½. In Sweden and Finland, 1 to 13½. In Strasburg, 1 to 94. In Boston, 1 to 82. In Charleston, 1 to 46. In Baltimore, 1 to 95. In New York, 1 to 64, and in Philadelphia, 1 to 63. (*D. Francis Condie.*)

PATHOLOGY.

In regard to the true pathology of whooping-cough, much diversity of opinion has existed, and continues to exist.

Condie says: "A majority of the most authoratative writers refer it to bronchial inflammation, which, by few is considered to be of a specific character. By some, however, who have

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written very ably upon the disease, the bronchial affection is viewed as a mere concomitant, or effect of the whooping-cough, and not, in any degree, essential to its existence.

Most of the writers refer it either to disease of the pneumogastric or phrenic nerve, or to disease of the brain, affecting the origin of the respiratory nerves, whilst others consider the cerebral irritation to be secondary to the bronchial disease and oftener absent.

"That the essential symptoms of whooping-cough are the result of a spasmodic closure of the glottis, there can be but little doubt; but whether this is owing to an irritation seated in the larynx or trachea, or in the brain, it is difficult to determine." Now, in pathology so uncertain, how are we to exhibit the proper remedies? are they to be addressed to the brain, the origin of the nerves, or to the larynx or trachea?

Dr. Robley Dunglison, on this subject, says: "It is difficult to affirm positively what are the anatomical characters of this disease.

It never terminates fatally, without inducing some other affection, whose traces are perceptible on dissection. This circumstance, with the phenomena during life, has caused it to be classed by distinguished pathalogical writers, amongst the *lesions of innervation of the bronchia.*" This is unquestionably very lucid! and throws much light on the mode of meeting the disease! He continues further: "In the great majority of cases, however, more or less redness is observable in the mucus lining of the bronchial tubes. This is at times general, but at others restricted in extent; and although by some it has been said to have been wanting, it has been maintained by others to be an invariable appearance. The small bronchial ramifications have been found filled with a mucus or a muco-purulent matter; and where the inflammation has extended to the lungs or pleura, or complications of diseases of other parts have existed, their characteristic lesions have been seen on dissection."

In Wood's Practice, we have it stated that "very different opinions have been advanced as to the nature of whooping-

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cough. Some consider it as essentially a variety of bronchitis; but this opinion is not tenable, because the best evidence exists, both from the physical signs during life and examination after death, that the bronchia are wholly free from inflammation. Others again ascribe the phenomena to cerebral disorder, considering this to be the essential feature of the disease. But this again wants the support of facts. No proof whatever is afforded by the symptoms that the brain is chiefly disordered. Again, Dr. R. Dunglison, in his work on Diseases of Children, (page 299) says, "but little is known of the causes of whooping-cough. It is one of those diseases that reign epidemically, and, as has been more than once observed, *we know but little of any disease that occurs under epidemic influences.*" It is rarely sporadic, and, as a general rule, attacks individuals but once; but to this rule there may be exceptions.

Eberle, in his work (vol II, page 200,) on Practice, says, "There exists no other cause, so far as we know, capable of producing this affection than the peculiar contagion which is generated by the disease itself. Nothing, in truth, is more mysterious and incomprehensible than the origin of these diseases, which we now find to be engendered and propagated by a specific agent alone, elaborated by the living body actually suffering under the disease."

The only solution we can offer, and it is indeed vague enough is, that, in the infinite combinations which the material elements of the universe are capable of forming, agents may have been involved, by a peculiar concurrence of circumstances, which had the power of originating these affections in the human system.

In Dr. Wood's Practice (vol. I, page 834), we have the following language: "One of the most common causes of pertussis is certainly epidemic influences."

It is very evident, from the above, that there are no clear and distinct ideas of the pathology of whooping-cough entertained by the authors already quoted; and, if we look at the various modes of treatment recommended, we shall see at once that, there has never been any reasonable treatment

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recommended. If we look a moment at their remedies, we find purgatives, astringents, emetics, expectorants, narcotics, vesicants, tonics, depletants, antispasmodics, caustics, revulsents, antiperiodics, ablutions, etc. Allow me to enumerate a few of the remedies that have been recommended and even extolled for their success in this disease. Calomel, squills, ipecacuanha, tart. ant. et potassa, musk and artificial musk, hyoscyamia, conium, belladonna, asafœtida, garlic, antimonial wine, hydrocyanic acid, elixir paragoric, Dover's powders, opium, liquorice balls, gum Arabic, linseed oil, castor, valerian, ammonia, oil of amber, Depple's animal oil, cochineal, conium lactucarium, oxide of zinc, sub. carb. of iron, iodide of silver, nitrate of silver, solution of arsenate of potassa, iodide of potassium, acitate and subcarbonate of lead, tanic acid, cherry laurel water, tar, benzoin galbamun, nitric acid vapor, bromide potassium, chloral hydrate, sulphur, alum, syr. white poppies, turpentine, lobelia, coffee, mare's milk, goats' milk, cold and hot baths, cold application to the head, hot pediluvia, tartar emetic ointment, and blisters. "Bleeding," says Dr. Dewees (sect. 1467), is demanded in many instances, independently of other circumstances, by the interrupted circulation of the lungs, and affords almost always the most decided relief. And this must be repeated as the necessity for it may continue, or, as this necessity may subsequently return in the progress of the case.

In a note, he says, "by bleeding we wish to be understood taking blood from the general system, by means of the lancet."

How can we imagine such a hydra-headed disease requiring such fearful instruments for its decapitation?

The only theory that seems to me tenable, and I think the success of certain remedies bears it out, is, that whooping-cough is the direct result of a fungus growth; that the spores are thrown off by the individual coughing, and are received by another in the saliva of the mouth, which retains them until they have time to attach themselves to the under side of the tongue, where the mucous membrane is the thinnest and softest

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of any part of the mouth, and at the same time are not so liable to be dislodged by drink or food. In this situation they remain until they are able to germinate, and spread along the sides of the tongue and backward, until they reach the larynx and pharynx, when the full whoop is established. Elevations or lumps can very plainly be seen under the tongue, before the patient begins the whooping, but the catarrhal symptoms are at this time quite prominent. Discharge from the nose, suffused eyes, headache, some fever, and general lassitude. The time of incubation is from nine to fifteen days, though varying in the different subjects. These elevations on either side of the frænum linguæ are small, and might escape observation, unless carefully sought for, as it is quite difficult to induce the young subject to turn the point of the tongue up long enough to make the proper observations.

This theory is sustained by the observations of prominent microscopists.

Dr. Letzerich, of Germany, in 1871, asserted, in a paper on that subject, that he had discovered a form of fungoid growth, which vegetates in the epithelium of the air-passages, and by its irritation causes the convulsive attacks of coughing. The expectorated mucus, in patients suffering from pertussis, he says, contains masses of brownish-red spores, with occasional threads of mycelium, which in the latter stages of the disease became very abundant. These observations were made from experiments upon rabbits, into whose trachea he introduced the fungus; in a short time they became affected with a noisy and violent cough—in fact a genuine whooping-cough. The rabbits thus affected were killed and examined, and their air-passages were found to contain the same fungus as that found in the sputa of human subjects; in fact, the mucus presented precisely the same appearance.

"This fungus theory is certainly a plausible and probable one, and one that seems to be proven by the effects of therapeutical measures directed against the development of fungus."

Dr. Breidenbach, in his paper on the treatment of this

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disease, gives his evidence in favor of the remedies that are calculated to destroy fungi.

The powerfully destructive effects of quinine on true fungi and fungus germs, is well known, hence its great power over septic or zymotic affections; and why should it not influence the growth of the fungus of pertussis? I here subjoin ten cases out of over one hundred and twenty treated since the last meeting of this Society.—(Taken from my case-book.)

CASES.

Case I.—On the 7th of June, 1874, I was called to see E. F., a little girl of four years, of bilious temperament, fourteen days after she had commenced coughing. Adhering to some of the old remedies, and to what I had called experience, I vaccinated her in three places. I found small nodules or lumps under the tongue, on either side of the frenum. Prescribed an aqueous solution of bromide of potassium, equal to four grains, every two hours.

14th.—Found one of the three points where the vaccine matter had been inserted was taking. The child had some fever—arm quite inflamed—which I think was the cause of the fever. The cough was not in the least relieved. Prescribed:

Brom. Potass, Hyd. Chloral,	.	ää ℈iss.
Aqua, Syr. Simp., ...		ää ℥ ss.
Ess. Minth P., ...		gtt xx. M.

One teaspoonful whenever required, care being taken that a portion be given each night on retiring.

On the *21st.*, fourteen days after my first visit, the cough continued even worse than when I first saw her. The upper surface of the tongue was covered with minute vesicles. The larynx and pharynx were covered with small red elevations. Prescribed—Cod liver oil, one teaspoonful every four hours. Pulse 140. Respiration forty-six per minute.

On the *26th* the child was slowly improving. The soluble citrate of iron, in syrup containing 16 grains to the ounce of syrup, was added to the prescription of cod liver oil; a tea-

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spoonful to be given every four hours. From this time the case progressed more favorably.

Case II.—Was called, on the 5th of July, to E. L. L., aged three months. Nervous temperament. Had been coughing for ten days—nothing had been done for the cough. The child showed very clear evidences of cholera-infantum; for this I was called to prescribe, as the parents supposed that the whooping-cough could not be relieved—*that it must run its course.* My efforts were unavailing, as the child died in nineteen hours. This idea, that whooping-cough must run its course, is so firmly fixed in the minds of many individuals that it needs correction, which can only be done by the successful arrest of the cough.

Case III.—Was called to M. L., a little girl of four years—had been coughing for four weeks. Prescribed cochineal combined with impure carb. potass., with little or no relief. After three days on this treatment, I prescribed two gr.-doses of chlor. hydrate, to be repeated at each paroxysm of coughing,—with no better success. At this time, I saw, in the *American Medical Weekly*, that Dr. Dawson, of New York, had recommended very highly the use of quinine; consequently, I prescribed for this patient 1 gr. sugar-coated quinine pills every two hours. There was slight improvement, but not what I had been led to expect. I had many other cases on hands at the time on this treatment, but none of them showed improvement in a remarkable degree.

About the 1st of August, I received, from the author, his monograph on *The Treatment of Whooping-Cough with Quinine.*

Case IV.—Was called on the third of August, to see A. L., aged 18 months—a very large and muscular boy. He had been coughing fourteen days. Prescribed an aqueous solution of quinine, gr. x. to the ounce, one drach. to be taken every two hours while awake.

4th.—Not improved—coughed six times during the day. Continued treatment.

5th.—Improved to-day—coughed three times during the

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night and four times during the day. Continued treatment.

6th.—Much better to-day—appetite improving—coughed but twice through the night and twice through the day. Increased the quantity of quinine to xv. gr. to the ounce of fluid. This was given in the same quantity and the same interval as the previous prescription.

7th.—Much improved. Treatment continued through the *8th*, *9th*, and *10th*, when the cough had entirely ceased and his general condition was improving rapidly.

Case V.—Was called, on 21st of August, to prescribe for J. B. T., a girl of 7 years. Had been coughing three weeks. Gave her quinine in solution, two grains every two hours, after the first night. She took but one portion before retiring the first night, and in the place of ten severe paroxysms of coughing during the night she had but two. The following day the quinine was given every two hours, when the cough almost entirely ceased.

4th September.—Has had but two paroxysms of coughing since the *22d of August.* From this time there was no cough, and she rapidly regained her usual health.

Case VI.—S. C., a little boy, 2 years old, had been coughing eight weeks—was much reduced in flesh and strength. I prescribed two-gr. portions of quinine every two hours. In twenty-four hours he began to improve—ceased to cough, appetite increased, and he was at his play on the second day.

Case VII.—February 23d, 1875, I was called to see G. I. E., aged 4 years—female. Had been coughing three weeks; parents thought that it could not be whooping-cough, because she had had an attack, from which she had suffered greatly, one year before, and had worn out the cough without being benefited by treatment. I prescribed the solution of quinine, as before. In two days the cough was so much benefited, and the child felt so much relieved by the medicine, that whenever she felt a paroxysm coming on she would cry for the "bitter medicine." She sometimes vomited the solution immediately after taking it, but this seemed to relieve her more than when her stomach retained it.

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Case VIII.—Feb. 23d, '75. Saw this case at the same time I saw Case VIII—was brother to that case—aged 2 years—had coughed fourteen days. Prescribed quinine in solution, one grain every two hours during the day. Cough so much relieved on the day following that I did not repeat the prescription.

Case IX.—C. S., aged 6 months—had been coughing seven days. I prescribed on the 27th February, 1875, one grain of quinine every two hours for two days. The cough almost entirely ceased and the parents thought the child well, but in two days after the medicine was taken, the father came back for more medicine, as the cough was returning. The second prescription relieved the child entirely.

Case X.—C. W. K., aged 5 months—male. Prescribed on the 27th February, 1875—the same treatment as in Case IX, with the same result. It did not need the second prescription, the first being sufficient to control the cough.

The happy results of the administration of quinine in these reported cases, and in many that I have not reported, have satisfied my mind that this is the most successful of all remedies yet administered.

From observations made, I have arrived at the following conclusions:

1st.—That the good results of quinine can only be obtained by strictly observing the following conditions:—"*It should be given in solution; the dose should not be too small, and should not be administered in an article that will prevent it from coming in contact with the mucous membrane in its passage through the pharynx.*"—(*Bonn.*) I have administered quinine in sugar-coated pills with little or no good effect.

2d.—The quantity given should be in proportion to the age and severity of the case,—children from three months to eight years bearing from one-and-a-half grains to fifteen, dissolved in an ounce of fluid, and one drachm administered every two hours.

3d.—That the higher the thermometer and the greater the malarial influences, the greater the mortality.

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4th.—That where there is great prostration in its latter stages, the use of iron and cod liver oil is desirable as a support.

A CASE OF SUSPENDED ANIMATION.

The case I wish to report, does not, I suppose, come strictly under the head of diseases of children, but, perhaps, might be classed among the misfortunes incident to the new-born child.

I was called, on the 15th of February, 1875, in consultation with two of our medical gentlemen of this place, in a case of a difficult and protracted labor. The patient, a young married woman,—short, stout-built,—with great firmness of muscles,—a primipara of sanguine-nervous temperament,—19 years old,—her usual weight being 140 pounds,—a native of the State of Indiana. The father being 22 years old, and of 180 pounds avoirdupois. It was found necessary to assist the expulsive pains with forceps, which were adjusted as soon as possible, and the child was ushered into the world. After the funis was ligated and severed, the child was handed to me. It was, to all appearances, dead; not a pulsation could be discovered. It was immersed in warm water, held up by the heels, shaken, slapped across the breast and shoulders with the open hand, cold water dashed upon it, and, in fact, all the means usually applied for the restoration of the new-born child, but to no avail,—the child, at the end of fifteen minutes, still remained dead. At this time, I placed the child on a pillow on its left side, and placing the pillow on a table conveniently near, and, drawing a chair beside the table immediately in front of the child, I took my seat and proceeded to draw from my pocket an India-rubber tube, about two feet long and three-sixteenth of an inch in diameter. I proceeded to insert one end in the child's mouth, after taking one end in my own, holding the lips of the child firmly, but gently, around the tube with my left hand, while, with the thumb and fingers of the right hand I held the nose, to prevent the air from passing out through the same. I then forced air from my lungs through the tube, and to my delight saw

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the chest of the child rise as indicative of the inflation of the lungs; taking my thumb and finger from its nose, the air immediately rushed out from the lungs of the child. I repeated the operation, and found that I could keep up artificial respiration in that way. This I continued for thirty minutes—forty-five minutes after the birth of the child—when a very small pulsation in a small hepatic branch from the umbilicus could be discerned. At this time, examined carefully for contractions of the heart, but could find no action whatever. I continued artificial respiration for ten minutes longer—fifty-five minutes from the child's birth—when I discovered the heart was acting; then suspending the artificial respiration for two minutes, the heart ceased entirely to act. Commenced again the artificial inflation, I soon saw the heart commence contracting again, and continued this for at least ten minutes longer, when I rested from my labor, for a few seconds, I saw a slight motion of the alea of the nose, and the child took a short, quick inspiration, the diaphragm entering into the effort. I waited a few minutes, when I found the lungs were not filling with air and the heart was ceasing to beat. I applied artificial respiration again, with the same happy result; at this time, I sent for an electric battery; the battery came in fifteen minutes, when I applied electricity to the spine and the diaphragm, varying the locations of the poles frequently, and, soon after this, succeeded in establishing healthy respiration.

I have narrated this case in full, or at least, quite full, for the purpose of illustrating the necessity of continuing our efforts for a much longer time than is usual in such cases. I have no doubt that many children are laid away as dead, that could have been resuscitated if artificial respiration, by the India-rubber tube, had been kept up.

I operated on this child more than one hour and three-quarters before a safe respiration was established.

In conclusion, I wish to remark, that an India-rubber tube is an inexpensive instrument, and the room that it occupies in one of your pockets does not amount to much, which facts

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leave you without an excuse for not being prepared for the emergency.

HOMŒOPATHIC BABY.

On account of its unusual size and weight, I will report a specimen which might be termed homœopathic.

I was called, on the morning of the 9th of July, to attend Mrs. E. W., who was supposed to be in labor. I obeyed the summons, and, having nearly two miles to travel in the country, it took some time to reach the residence of the patient. As I entered the house, the child was born—a little girl, at full time—whose nude gravitation was precisely equal to twenty-four ounces avoirdupois.

This infinitesimal specimen of humanity was bright and active. The mother was of an average size, and weighed, usually, one hundred and twenty-five pounds; twenty-eight years of age—this being her fourth child—having had one son and two daughters before this child.

The father was rather under an average size, 34 years old, weighing, on an average, 135 pounds, always in a healthy condition, of active habits, being a farmer. The father and mother were natives of Illinois, their parents all of the most healthy organizations.

The child, at this writing—May 9th, 1875—is well and apparently healthy, weighing twenty-two pounds, being 22 months old—one pound for each month.

The paper was referred to the Committee on Publication.

Dr. Fitch.—The contributions of Dr. Earle to this report I have been looking over, by request of the Doctor, for the purpose of reading it. I do not know that I can read it intelligently. It is on the use of quinine in whooping-cough.

The President.—Dr. Earle, of Chicago, is an associate on the same Committee. The Secretary will read it.

Dr. Fitch read the paper, as follows:—

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QUININE IN WHOOPING-COUGH.

By CHAS. W. EARLE, M.D., Chicago.

The occurrence of this disease in a very severe form in my own family caused me to look up the literature on this subject with more than ordinary care.

Before adopting the treatment, (the outline of which I propose giving you,) I had tried everything that the books recommend, including the bromide, belladonna and its alkaloid atropia, alum, the cochineal mixture, the fld. ext. chestnut, etc., but without the amelioration of a single symptom.

The following is a brief history of the case:

My little daughter, aged 10 months, commenced coughing August 1st. The bronchial catarrh, which usually precedes the complete development of the disease, continued only five days, and was not at all severe.

Aug. 15th, the spasmodic or convulsive period commenced, and all the symptoms incident to the disease increased until Aug. 18th, when she had *forty-five paroxysms* in the twenty-four hours.

The evening of the 18th, I administered a single grain of chloral, and the following morning commenced giving her gr. j. quinine in acid and water every third hour. After giving a few doses I found that it invariably caused a paroxysm of coughing, and wishing to avoid anything which would cause a spasm, I discontinued the medicine by mouth and commenced its administration with the hand atomizer, using it every time she had a paroxysm, and causing as much as possible to be carried into the lungs. This treatment was faithfully continued for three days, and resulted in bringing the paroxysms from 45, to 12 or 15 daily, or from a severe and dangerous to a comparatively safe condition.

Trousseau remarks, p. 129, vol. ii., that when the disease is of medium intensity the child will have about 20 paroxysms daily, when more severe, from 40 to 50, and even 60, 80, and 100 have been noticed. When the number exceeds 40, he

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adds, the prognosis becomes grave. The medicinal agents, then, which contributed to the relief of our little patient, (the prognosis of which, according to the testimony of the great clinical teacher referred to above, was very grave,) were gr. j. of chloral, administered once, and quinine, gr. j., every three hours, for about twelve hours; and then a solution of the same remedy, used with the atomizer, during every paroxysm of coughing, for three days. The chloral had been administered before without any appreciable benefit, and it has always seemed to me that the quinine was the real effective drug in the case.

I am aware, gentlemen, that this is but a single case, but it is my experience with a therapeutic agent, concerning the use of which, in whooping-cough, a number of articles have been written; and yet its value is not universally known.

I have introduced the history of my single case prefatory to a summary of what has been written upon the subject, hoping that more will be done to test the value of this agent in a disease, the treatment of which, to a great number of practitioners has, to say the least, been very unsatisfactory.

In the early part of 1870, Prof. Binz, and later in the same year, Breidenbach, published articles on the beneficial action of quinine in the convulsive stage of pertussis. In 1871, Steffin confirmed, in the main, the accuracy of the observations of the gentlemen mentioned above; and two years later, Dr. B. F. Dawson, Clinical Lecturer on Diseases of Children in the Medical Department of the University of New York, reports eighteen cases, and advocates strongly the value of quinine in *curing* the whooping in this disease.

All these, gentlemen, I believe, accept the theory that pertussis is a specific, contagious, bronchial catarrh; also, that the contagious element rests in the mucous, epithelial cells, and, perhaps, expired air. One observer states that he found *spores* of low organisms in the air expired, and in 1871, Dr. Letzerick announced the discovery of a peculiar fungoid growth, which vegetates in the epithelium of the air passages, and was the direct cause of the convulsive coughing.

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"The expectorated mucus in patients suffering from pertussis," he says, "contains masses of brownish-red spores, with occasional threads of mycelium, which, in the latter stage of the disease, become very abundant."*

Numerous experiments with this fungoid growth have been made, by introducing it into the tracheæ of rabbits. A cough, noisy and spasmodic, has been developed in these animals, and, upon killing them, the same fungus, apparently, has been found very abundant on the mucus membrane of the air-passages. The experiments recorded certainly give considerable plausibility to the theory.

The fungus theory having been partially established, the next most natural thing to suggest itself would be the well-known and powerful distractive effects which quinine exerts on these lower organizations.

Prof. Binz had demonstrated, some time before he published the results of his experiments with quinine in whooping-cough, that this therapeutical agent would check, very markedly, the alcoholic fermentation in various fluids, and that this antiseptic action was due to the poisonous influence of the drug upon the fungi, which are the cause of such fermentation. "According to his experiments, the largest infusoria are killed, by a solution of quinine of the strength of 1 in 800, immediately, and upon the ordinary mould Penicillium, upon vibrios and bacteria the drug acts with a similar fatality."†

With the known distructive effects of quinine on fungoid matter, and accepting, for the time, Letzerick's theory of pertussis, what have been the results? Dr. Steffin has seldom failed to quiet the convulsive stage, when the drug has been given in sufficient doses. When the child refuses to take the medicine, he suggests instilling it through the nostrils, or administering it by enemata. Dr. Breidenbach noticed a favorable result in all uncomplicated cases, and ofttimes the

* From Dr. Dawson's paper.

† Wood's Therapeutics, Materia Medica, and Toxicology, p. 62.
For Prof. Binz's original article, see Virchow's Arckiv, 1869, p. 68.

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benefits arising showed themselves with great promptness. In the severest cases, within 24 hours, the paroxysms became diminished in violence and frequency.

Prof. Binz says: "I have treated, for the past two years, all the cases of pertussis, without any exception, with quinine. The best proof of its good effects is seen in the fact that those in charge of the little patients repeatedly call again for the 'bitter medicine,' whenever they have succeeded, by coaxing or force, in administering it to them. There was a most striking difference to be seen in those whom it was impossible, by any means, to induce to swallow the solution of quinine. In these cases, the whooping-cough assumed its regular obstinate course; in the others, although living, in all other respects, under perfectly similar circumstances, the paroxysms were always reduced in frequency and severity."

Dr. Dawson's first recorded case whooped only once after the second day's administration of quinine; second case did not whoop after the eighth day; third case did not whoop after the quinine had been continued 24 hours; fourth case did not whoop after first day; fifth case whooped last time on tenth day after commencement of treatment; sixth case did not whoop after fourth day. In Dr. Dawson's sixteen cases, the shortest cure was effected in one day—the longest in twenty days.

In order to insure success, the following rules are given by Dr. Dawson:

1. Give the quinine, (sulphate or hydrochlorate,) dissolved by acid in pure water only. For children under 3 years, from grs. v. to viii., and for older children and adults, from grs. x. to xii. to the ounce.

2. Give not less than a teaspoonful *every single*, or, at the longest, every two hours, during the day, and whenever cough comes on in the night.

3. Give nothing afterwards, for some minutes, to destroy the taste or to wash out the mouth.

4. Continue giving it, notwithstanding the first doses may be vomited.

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5. Be sure that the quinine is pure, and thoroughly dissolved.

To which I would add, as a valuable adjutant, the hand atomizer. The quinine, dissolved in acid and water, should be introduced through a glass tube—not metal.

When the convulsive attacks are very frequent, the quinine spray should be used during each one. When they are less frequent—12 to 15 daily—the medicament should be used not only during, but once between, each paroxysm.

Dr. Ingals.—I really do not think I ought to sit here and allow these papers to pass without any criticism, because I think the teachings are dangerous. The administration of quinine in the doses recommended very frequently, I feel sure, is pernicious and dangerous on several important accounts. I allude to Dr. Hamilton's paper, because I do not want to intrude upon the time of the Association. He recommends the administration of 15 grains of quinine every two hours, to an adult, and for a little child a proportionate amount. That gives an ounce in something less than three days. If any one has lived in a malarious district and taken much quinine, he knows what it is to take quinine. Any one administering it in such doses—8 or 10 grains frequently repeated to a little child, till its head is nearly bursting—may produce such cases as we have seen at the Deaf and Dumb Asylum to-day. I cannot allow it to pass. Dr. Hamilton says he had used it in over one hundred cases, and he tells us, I think, of a number of deaths, but did not tell us how many.

Dr. Hamilton.—One.

Dr. Ingals.—Well, you may know that when any such remedies are recommended for whooping-cough, the physician knows nothing about the treatment of the disease. They are striking in the dark, hoping to find something to terminate the disease. I do not pretend to know how to cure it, and in thinking back I can only remember one case that died. I do not have much solicitude about whooping-cough. It is, I believe, influenced more by atmospheric changes than by anything else. The patient should be placed in a dry atmosphere, and not exposed to vicissitudes. I want to say one other thing in regard to quinine: if it acts, as Dr. Hamilton says, locally, why give so much? or why give it as a local application at all?

Dr. Steele.—Does it not act as a nervous stimulant?

Dr. Ingals.—You may remember the story of Dr. Franklin about the fish. If you put a fish in a vessel entirely full, Dr. Franklin said, was a matter of fact or it was not, but it has not been very extensively observed. So it was with whooping-cough. I have noticed this, that first observers have always been enthusiastic, and drawn conclusions, as Dr. Earle has, from single cases.

Dr. Fitch.—I arise to a question of explanation. The gentleman is mistaken

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as to the amount of quinine recommended by Dr. Earle. He recommends, for a child under two years, from 5 to 8 grains, and for older children and adults, 10 to 12 grains, in an ounce of water; of this, a teaspoonful should be given every hour or two, which would make, for a child, five-eighths of a grain, and would not be an excessive dose.

Dr. Ingals.—Every hour not an excessive dose? Well, I will stand upon the record, upon the negative of that.

Dr. Mosher.—I think it was in the first essay that 15 grains were mentioned as the dose.

Dr. Hamilton.—It was 15 grains dissolved in an ounce of fluid, making a clear solution of quinine, giving one-eighth of it—a dram—at a dose. In regard to the case I had that died, it died from cholera infantum before I had a chance to use quinine. The case that died had no quinine at all. I think if the Doctor tries quinine himself he will be better pleased with it. I would ask if he has tried it.

Dr. Ingals.—I have.

Dr. Slater.—I like the manner of discussing the question. I think we lose the benefit of the articles read, (largely, at least,) by not discussing them. In the first essay, a long list of remedies were mentioned, but I do not think the writer mentioned a remedy that has been very successful in my hands—one which I think has been beneficial in every case, and that is bromide of potassium; whether it acts upon the fungoid growth or not, I cannot say; but it does act upon the nervous system and allays nervous irritation, and consequently, the spasmodic action of the glottis, and postpones the paroxysm of coughing; and while we may have cases with 20, 30, or 40 paroxysms in 24 hours after giving the bromide of potassium in proper doses, you will reduce the frequency of these paroxysms very mnch in the first 24 hours. Some years ago I had a case,—the daughter of a well-known man —a stock-dealer.—She was five years of age. Her flesh was œdematous over the whole system; the action of the heart very much depressed, and a great deal of nervous prostration. I gave her bromide of potassium, with fine effect. When I visited her at first she was not able to sit up in bed at all, and I think within the first 24 hours she derived a great deal of benefit from it. Thus the first week I adopted the bromide of potassium I curtailed her disease. I have also used another remedy with considerable success in my own family. I have had six children to have the whooping-cough, and some of them had it very severely. In those days I used hydrocyanic acid with a great deal of success in curtailing the disease. I gave from 5 to 10 grains every 4, 5, or 6 hours, made into a solution with simple syrup or peppermint water.

Dr. Foote.—I have had some experience in using quinine in whooping-cough, and from what I have seen of its use, I believe its effects have not been overrated. Its beneficial effects are obtained by its use locally. I have, I think, seen better effects from it than from any other remedy, so that I rely upon it more than upon anything else. I use hydrocyanic acid if I need anything in addition.

Dr. Cowen.—I have used quinine for the last fifteen years for whooping-cough, and I have always been of the opinion that the quinine acts as an antiperiodic.

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There must be periodicity about the paroxysms of the disease, and I cannot see why an antiperiodic effect would not hit it. As to its local effect I do not know anything about its action. I have used belladonna and nitrate of potash. I have thought I had better effects from nitrate of potash than from bromide, in pretty large doses, say 5 or 10 grains. It seems to produce a sedative effect. I always thought it was the anti-periodic effect of the quinine that did it.

Dr. Mosher.—I believe it is generally considered that, while there are so many specifics for any disease, that none amount to much, if anything. In this case quinine is one, bromide of potassium another, hydrocyanic acid another. I believe one man has faith in belladonna. I know of one case in which I had convulsions with measles, and by the use of belladonna the paroxysms were reduced one-half, and in about 3 days the paroxysms were reduced to 4 or 5 in 24 hours. I believe a good deal in belladonna. I have used bromide and with benefit, but not so marked as from the use of belladonna. I have used quinine as a nerve tonic more than anything else; but I understood from the first paper that we get no benefit from quinine at all unless we get it from a local application. Of course, that would do away with any theory of its use as a nerve stimulant or antiperiodic. I am some like the gentleman at my right—I never can accomplish what the enthusiastic originators of remedies claim to accomplish. I have tried and always come out behind. I don't know what is the reason.

Dr. Worrell.—I want to say a word about this quinine business. I don't know that I shall say it very seriously, either. The report of Dr. Hamilton seemed to be a long catalogue of therapeutic remedies, collected by and recommended by theorists and others. I think that any other gentleman could add to our amusement by quoting from the numerous authors in support of quinine as a specific in almost all the diseases of every grade, variety, and form to which the human system is obnoxious. I entered upon the practice of medicine at a time when a man would have been considered guilty of malpractice in administering quinine in any inflammation or fever, and especially any inflammatory condition of the system, but to-day we hear that for the most opposite conditions of diseases of the human body this great thing, quinine, is an omnipotent, potential panacea. I have a friend, sir, who thinks it a specific for hay asthma. What is the modern doctrine of the *modus operandi* of quinine? and what is the modern doctrine as to the indications of treatment for inflammatory diseases? It is this: instead of abstracting from the resources which keeps up inflammatory disease, which continues it and makes it more and more dangerous, it is now taught that from the very moment the inflammatory disease sets in, the central organ begins to lose its power, and comes under an influence of paralysis. In this very fact of its exalted function, in this primary indication, the doctrine is taught that quinine, as a stimulant of the heart's action, is a tonic—a toner, according to the doctrine of Da Costa. Now, sir, I do not know anything about quinine at all—I am ignorant as a Hottentot with regard to it.

To-day, as blindly as an empiric, every doctor in this broad State of Illinois gives quinine, and is compelled to do it on account of popular sentiment. Prominent members of our Society are advocating the doctrine that quinine is a good remedy for almost everything; why wouldn't it be a grand remedy for anything we could name—toothache, headache, and for all low conditions of vitality where

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there is not power enough to have a headache? That is about what I think of quinine.

Dr. Hamill.—One single remark in allusion to one statement in the paper: It is said that 1 part in 800 of quinine is destructive to vibrioni and animalculi. If that is a fact, where is the necessity for heroic doses?

Dr. Rumbold, of St. Louis.—I have also used quinine in pertussis, locally, and also, under the recommendation of Helmlotz, in hay fever, and have found that it destroyed bacteria and vibriones. I was astonished at the results, and have repeated the experiment, I presume, over a hundred times in my office. I have used quinine spray in the throat, and in every instance in which I have used it, it produced vomiting. I do not know that vomiting was a good thing for whooping-cough, so I mixed a little carbolic acid with the quinine. You cannot get more than two grains to an ounce of water—that is all the water will take up. If you put two or three drops of carbolic acid into that amount of water, it changes the quinine into a sweetish bitter. The anæsthetic property of carbolic acid prevents the vomiting. It also prevents the coughing. It is a combination of these two that I have used. I have also used carbolic acid alone, with water and glycerine, and I have also used common salt and water. I have had nearly as good an effect with warm water and salt, and apparently all the good I did was to clear the surface. If any one will take pains to examine children with whooping-cough, the mucus membrane will be found covered with a thick, tenacious mucus, and that will cause coughing in most cases, by clearing that out my patients have been benefited.

Dr. Hamilton.—I think, Mr. President, that the treatment of pertussis is entirely local, with the application, by spray, of carbolic acid; and the application of a weak solution of nitrate of silver with a brush has a good effect—anything that will destroy the spores; and with the application of bromide of potassium, hyoscyamus, opium, or other narcotics for quieting the child, and keeping it from coughing. If quinine could be given by spray it would be more desirable than to give it by the stomach. The object in giving large doses is to keep it in contact locally as long as we can. It simply touches as it goes down.

The report was referred to the Committee on Publication.

Dr. Prince being on the programme for the next paper, came forward and said:

I am hospitably inclined to-night, and Dr. Rumbold, of St. Louis, has a paper on the Functions of the Uvula, which, he thinks, will take about ten minutes for its delivery. I suggest that he read his paper first.

The Association so decided and Dr. Rumbold read his paper.

[Dr. Rumbold, though repeatedly applied to, failed to furnish the Committee his MS.—PUB. COM.]

Referred to the Committee on Publication.

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REPORT ON GALVANO-THERAPEUTICS.

By DAVID PRINCE, M.D., Jacksonville.

Mr. President and Members of the Association:

I shall not read a paper to-night. First, I call your attention to the fact that electricity is a disturbing element in all its forms, and we may, therefore, well suppose that it is not adapted to those conditions in which rest is the indication. Rest and electricity, therefore, are antagonistic in therapeutic indications. Rest is the most important indication in those conditions following injuries; those conditions, which are inflammatory, acute, or recent: we, therefore, should not expect that electricity, in any form, would be adapted to acute inflammation of any kind; and I think experience will bear out any one who attempts to substantiate this maxim, or to confute it. If it is considered then, that electricity, in any form, is inapplicable to all those conditions in which rest is the principal indication, we have made some progress in determining what it is good for, and what it is not. Now, let us take some conditions of the various parts of the system, and apply this agent as we would apply any other. Electricity is an agent of activity,—let us take a condition of the brain in which there is acute inflammation: we should make this case worse by the application of electricity in any form. But if it is a condition of simple functional derangement, electricity may be useful.

Take the chest: if we have inflammation there, as pleurisy, we shall not derive any benefit from the application of electricity in any form; but if we have simply "a stitch in the side," it may be beneficial.

Take the abdomen: if we have a condition of torpor, the bowels very inactive, or the muscular walls torpid, electricity is beneficial. If we have constipation from inaction, arising from the inanition attendant upon an inflammatory condition of the muscles, we shall find that the inflammation is increased, and the constipation rendered more marked, by its application.

Take the organs within the pelvis, and we shall find that

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where functional derangements and torpors may be benefited, it renders inflammatory conditions worse.

Take lumbago, as we ordinarily understand the term, and we shall find that electricity helps it; but take an inflammation of that region of the body, and electricity hurts it.

In sciatica and neuralgic diseases, electricity helps, but if there is an inflammation of the nerve, electricity hurts.

Now, with regard to the modes of electricity: I shall say nothing of static electricity, as it has gone out of use as a therapeutic agent—we shall consider the faradic, or inductive, and the galvanic or dynamic forms. Galvanism we may liken to those medicines that are called alterative, acting by changing the nutrition; we may compare faradism to the irritation of an epispastic acting upon the nutrition of the organs by the excitation of a more active function. Galvanism acts upon the functions by the excitation of nutrition.

Now, if this is a true statement of the different modes of action of these agents, it is easy to see in what cases one would be most likely to be beneficial, and in what case the other. Now, with this statement of principles, we will begin at the head, for a moment, to see their application. A condition of the head, depending upon defective nutrition, or headache, from inanition or defective innervation, will, very likely be ameliorated or removed by the application of the galvanic current; but mark the effects: if the current is made to apply unequally to the two sides of the brain, dizziness will result from the unequal action of the two parts of the brain. While we galvanize but one part of the brain, equilibrium is lost, thinking is awry, and the person may fall down; but the faradic current has very little effect on the brain, probably because it acts chiefly on the sentient nerves and on the muscles. The brain, though the organ of thought and the controller of motion elsewhere, has a very feeble endowment of sentient nerves, and very few muscular fibres, hence, it has little to be acted upon by the faradic current. This has induced some authors to deny that the faradic current pierces the cranium. The opinion arises from the fact that

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there is no test as to whether it does or not. Galvanism evidently penetrates the cranium, for it produces an effect upon the eyes when a current is passed through the retina and optic nerves or optic lobes, and a change in the taste—persons are surprised that they taste electricity. But if the headache depends upon any inflammatory cause, of course it will be made worse by either form. If the headache arises from dyspeptic causes, it is not likely to be benefited by either form, because the dyspepsia is not removed. Again, if it is headache depending upon the sympathetic system, it is not likely to be removed by the application of galvanism to the head. The circulation of the eye and its surroundings is greatly influenced by electricity.

While in acute inflammations and congestions it would be improper in all forms, in atonic conditions and chronic stages it is a remedy of great importance.

In the chronic sequels of inflammation of the eye, the negative pole of the galvanic current employed, of a strength to produce feeble phosphenes—(flashes of light,) if applied in the labile (stroking) mode, for about two minutes, and repeated every day, or second day, produces effects which are very satisfactory. In anæmia, we should theoretically employ the positive pole in the same way. In case of paresis or paralysis, faradism is the appropriate remedy to be used. It may be said of the latter that, if it does no good, it will do no harm, while of the former we must say that it is a dangerous agent in careless hands. Duchenne says that he put out a pair of eyes with the galvanic current.

Go down, now, to the chest: a neuralgic condition of the pleura is likely to be benefited by the galvanic current; but if it is a condition dependent upon a paralysis of the muscles of the ribs—the costal muscles—the faradic current would be the form from which most benefit should be expected.

In the abdomen, in a torpid liver, most benefit would be derived from the galvanic current, because of the change of nutrition in those organs, which the passage of the current would induce. In these cases, I know of nothing more effe-

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cacious than the passage of a galvanic current through the organs. If, however, there were muscular torpor, the faradic current would be the one from which most benefit should be expected.

Again, in the pelvis, neuralgic conditions will receive most benefit from the galvanic current; while conditions of muscular torpor, as in some conditions of displacement of the uterus, the faradic current is better.

In affections of the limbs, as in deposits around the joints, we may expect the most benefit from the galvanic current. In conditions of the limbs, however, in which the disability does not depend upon a deposit, but upon a bad innervation, or perversion of sensation or motion in the parts, we should expect most benefit from the faradic current. Hence, we find that, in cases of palsy, the faradic current is most beneficial.

And this leads to the explanation that sometimes we have the two conditions combined, and a necessity for the stimulation of the nerves of sensation and of muscular movement, at the same time, that we wish to secure the resolution of some deposit. Here the indications are met by interrupting the galvanic current. This may be done by rapidly opening and closing the current by the hand, but it is better done by a machine which runs after the manner of clock-work, like that of Powell's; by this means we secure the resolving action of the galvanic current, with the loosening and shaking effect of rapid shocks. Indeed, in this way a good, constant-current office battery, in a great measure supersedes the use of the faradic battery. A constant current battery, however, is not portable, and cannot, therefore, answer the purpose of the general practitioner. The trouble and uncertainty attending the use of the inconstant portable galvanic batteries forbid their satisfactory employment for office use.

This is but a rapid glance at certain principles, which it is well to bear in mind in the employment of this agent. I think the principles are plain and easily remembered, and about their correctness there can be no doubt.

There is often a condition of lassitude or of uneasiness, in

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which no particular organ can be charged as the offender, in which the faradic current, applied so as to include all the parts of the body at once, or singly in succession, is of great advantage. The most convenient mode of faradization for this purpose is that of a bath; the salts of the body make it a better conductor than simple water, and the current, therefore, leaves the water and takes the body, involving as much of it in vibration as is immersed. This treatment is especially useful in debilitated conditions. The theory of action is probably that of a universal increase of nutritive activity under the vibratory movement, with corresponding activity of disintegration, and a consequent demand for more food.

An ordinary wood, or a well-painted metallic, bath-tub will do, and by a wire, connected at one end with one pole of the battery, and at the other end with a sponge, immersed at one end of the bath, while at the other end of the bath another sponge is similarly connected with the other pole of the battery, the arrangement is complete. An ordinary faradic machine will give a current which is appreciable, but for the most satisfactory effects a longer helix is necessary.

I have recently obtained, from George H. Bliss & Co., a helix, made by the Western Electric Manufacturing Co., No. 220 Kinzie Street, Chicago, which affords great satisfaction. It is capable of delicate gradation of the strength of the faradic current, so as to be effectual, and yet not too strong to be unpleasant, with a fineness of interruption that prevents the feeling of distinct shocks—this is an important condition for the best tonic effects of faradization.

For one moment I wish to call your attention to the surgical application of electricity, in the form of galvanism, or the electrolytic power of the current. This power of the analysis of fluids and solids, and directing the alkaloids and hydrogen to the negative pole, and the acids and oxygen to the positive pole, is employed, sometimes, in the resolution of tumors. In these cases, a needle, as the negative pole, is introduced into the tumor, and the positive pole, by means of a sponge applied somewhere else. When the effect is favorable, the

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tumor softens and begins to diminish in size, and, in some instances, after one application it goes away; in others it requires a number of applications. The criticism has been made that the simple introduction of the needle itself will do this, by inducing an inflammatory process, which induces the material to be absorbed and carried away. This may be so, but if it is so, you can readily see that this powerful agent must very greatly increase the probability of success.

The agent is employed in another way, for changing the nutrition by applying the positive pole, not in the way of a needle, but in the way of a sponge—diffusing the current over the surface, in order to stimulate a more active nutrition—one which is unfavorable to the rapid, degenerative growth which produces cancers, so that the fungus growth of malignant processes is interfered with, and, in some cases, arrested.

Again, the positive pole is employed for the arrest of those processes that hinder the cicatrization of ulcers, enabling them to heal more rapidly than when left alone, while, under the negative pole, the healthy nutrition is interfered with, and the ulcer may be made larger. I only state the results of experience, and its theoretical interpretation. For producing degeneration, we employ the negative pole; for increasing nutrition, we employ the positive pole.

Let me give you an illustration of what may occur: A case of chronic sore eyes, in which it is a question whether you will employ the positive or negative pole. The case has existed for months—it is no longer an acute inflammation. You apply the negative pole for a few moments, when an impression of strength ensues, as if the eye were cleared up—very much the same effect as is produced by the application of cold. Here you wish to produce an antiphlogistic, at the same time that you exert a tonic, effect.

Again, this agent is employed in surgery for destruction. In that case two methods may be resorted to; two needles may be put into the part, so that the current has a little distance to travel, and the oxygen and acids accumulate around the positive needle and burn the part, while around the negative, hydrogen and alkalies are produced, resulting

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in sloughing, and destruction of the structure. But it is also used as a knife. Advantage is taken of the principle that, when the curreut passes along a substance which offers resistance to its passage, heat is produced. This is not so well shown in fluids, because the particles rapidly change place, and the whole mass of fluid has to be brought to a high temperature. But it is very apparent in solids, where the electricity is accumulated upon smaller surfaces, and sufficient heat is produced to readily burn the parts to which it is applied. Let me give you an illustration. [Dr. Prince here turned to his galvanic battery, and illustrated his points by actual experiment.]

Three conditions are necessary: that the agent shall not oxidize or burn out; that it shall not melt, and shall not be a good conductor. I take a piece of iron wire to ascertain whether it will answer the conditions, *i. e.*, is infusible, unoxidizable, and a bad conductor. We have, upon the stage, a couple of galvanic batteries, arranged for cauterizing. I have, in my hand, a piece of iron wire—I grasp it in the forceps which I hold in my hand, and we will see what it will produce. [The electric current was now passed through the wire, causing it to melt and fall in incandescent globules upon the floor.] I find that this will not do—it burns and melts, therefore it will not do for surgery. We will now try a bit of platinum, to see if that will do. As I shorten the wire the heat becomes more intense—it does not melt, does not oxidize, and is a bad conductor. We will now take a piece of paper and wet it, to make it resemble, as near as may be, the substance to be operated upon,—the heated wire burns it through. As the wire passes through the flesh, there is no loss of blood, for it cauterizes as it goes—as it travels through the paper, it will travel through a tumor.

[Dr. Prince having explained the electrical apparatus at some length, a motion was carried that the Doctor be requested to furnish a paper on the subject, for publication in the Transactions.]

[The foregoing Address was furnished the Committee for publication in lieu of a Paper.—PUB. COM.]

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Dr. Prince.—Several gentlemen have expressed a wish that the programme be so changed as to accept Prof. Sanders' proposition to give a concert to-morrow night. The Committee of Arrangements have no wish except to please the Society. The Committee reported unfavorably to the proposition because they thought this Society would not wish to give any more time to pleasure or recreation; but if the Society differs with the Committee of Arrangements, the latter do not care.

Dr. Freer.—I move that we invite the Conservatory of Music to entertain us after the President's address to-morrow evening.

The motion prevailed and the Society adjourned until 8 a.m., to-morrow.

WEDNESDAY MORNING SESSION.

The Association convened at 8 o'clock, the President, Dr. J. H. Hollister, in the Chair.

Dr. J. W. Freer read a paper on transfusion, as follows:

TRANSFUSION OF BLOOD.

BY JOSEPH W. FREER, M.D., of Chicago.

HISTORY.—In the year 1657, Sir Christopher Wren made the first experimental observation on the subject of transfusion, "at which time, he proposed, at Oxford, to Mr. Robert Boyle and Dr. Wilkins, a way to convey any liquid into the blood, by making ligatures on the veins, and then opening them on the side of the ligature towards the heart, and by putting into them, slender syringes or quills, fastened to bladders, (in the manner of clyster pipes), containing the matter to be injected." This proposition was put into practice by Sir Christopher himself, an account of which may be found in Boyle's Usefullness of Experimental Natural Philosophy, 1663.

June 15th, 1867, Dennis, of the Faculty of Montpelier, in France, recorded the first legitimate case of transfusion of blood upon man.

The case was that of anæmia, resulting from protracted fever. The effect is stated to have been strikingly beneficial. In consequence of this, great expectations were entertained respecting the future of this new therapeutical acquisition.

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It was maintained that the fountain of eternal youth had been discovered, and that all the ills of life must eventually yield to the blood of calves; for such was the character of the blood made use of in the above instance.

The same year, (Nov. 23d), Drs. Lower and King, of England, performed the first transfusion of blood upon man in that country.

Pepy says, in his Dairy, that Wilkins told him that, "the subject was a poor and debauched man, that the College had hired for 20 shillings to have some of the blood of a sheep let into his body; they proposed to let in about twelve ounces.

It is stated, in the report of Lower and King to the Royal Society, that, "The man, after this operation as well as in it, found himself very well, and has given in his own narrative under his own hand, enlarging more upon the benefit which he thinks he has received by it, than we, as yet, think fit to own."

Dec. 12th, Arthur Coga was again transfused with sheep's blood, and this time with fourteen ounces. The results were equally beneficial.

About this period, the practice of transfusion had become general throughout France, and was applied with so little discrimination or skill, that, in consequence, many deaths resulted, which caused the authorities to interfere in such manner as to interrupt further progress in this direction.

As far as known, all the transfusions of this period were made with animal arterial blood, the method being direct tubular connection between artery and vein.

For some unexplained reason, about this time transfusion fell into disuse in England, to be revived by Blundell in the year 1818. He was led to this from having witnessed the death of a young woman, from puerperal hemorrhage, which impressed him so strongly, that he at once set about resuscitating this long lost art.

In 1850, Nelaton having succeeded in a case of hemorrhage, strongly advocated the more general adoption of this practice.

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From the latter date to the present, the propriety of this procedure has gradually, but uninterruptedly, gained ground in the minds of the public and profession; so we may safely assert that, under certain circumstances and conditions, it is obligatory upon all practitioners of medicine and surgery, who possess the necessary knowledge and facilities of application to resort to this expedient.

For the foregoing history, we are mainly indebted to an article, by J. H. Aveling, M.D., on the subject of transfusion. (Obstetrical Journal of Great Britain and Ireland, No. 5, Aug., 1873.)

Next, we wish to call attention to the character and condition of the blood made use of—whether animal or human, natural or defibrinated. The latter raises physiological problems of great and absorbing interest, namely, that of the relation of fibrin to nutrition, and the maintenance of the body.

In a monograph by Prof. Robt. McDonald, of Dublin, Ireland, we find the following quotation, from Simon, on this subject:

He says, "Many physiologists have regarded fibrin as that ingredient of the blood which, in the ascending scale of development, stands next for appropriation into the living textures of the body; they have regarded it as representing the ripeness of perfection, and nutritiousness of the blood." "On the opposite, of late years, there have been some who have inclined to a very different view, thinking that they find cogent reasons for placing fibrin in the same scale as the extractive matters, and for reckoning it among those elements which have arisen in the blood from its own decay, or have reverted to it from the waste of the tissues."

"I may confess that, to my mind, this appears infinitely the more plausible view, and I will tell you the arguments which induce me to adopt it, to wit: I find that fibrin is undiminished by bleeding, however frequently repeated; nay, that it often, or even usually, increases under this debilitating treatment; its highest figure given in Andral's book (10. 2)

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was at a fourth bleeding, and Scherer found it as high as (12.7) at the third venesection, in a case of pneumonia. I find that under many circumstances of exhaustion, and weakness, and inanition during the progress of starvation, during diseases essentially anæmic, during violent fatigue, and the like, its proportion has been found at least as high, perhaps higher, than in the inflammatory process.

"Some of the facts, derived from very different sources, appear quite inexplicable on the theory that fibrin is essential to the progressive development of the tissues, and the opposite inference seems unavoidable; that it must be considered an excrementitious product, derived from the waste of the tissues, or the oxidation of the blood, and in progress of elimination from the system."

Brown-Séquard's well-known experiment of injecting defibrinated blood into the arteries of a limb just severed from the living body, and the product, which, returned by the veins, being strongly charged with fibrin, is confirmatory of this view of the position of fibrin in the economy as it regards nutrition.

My own experiments are also corroborative; for example: It has been my custom, for the last eight or nine years, to perform the following experiment on dogs before classes of Rush Medical College, *viz.:* The animal in each case being bled from a carotid as long as the blood would flow, inducing a condition of complete syncope, then this blood, defibrinated, returned by one of the jugular veins. In no instance, save one, have we failed to resuscitate the animals, while the subsequent results have been that of complete recovery.

An experiment of this description was performed last year before this Society—the animal still lives and thrives, moreover, at the present time, wears a canula in his stomach, one inch in diameter, for purposes of study of stomach digestion.

QUERY,—If fibrine is essential to nutrition and health, why did not these animals suffer from this sudden deprivation of this constituent of the blood?

In the words of Prof. Robt. McDonald, of Dublin: "Phy-

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siologically, therefore, it appears that blood is rendered more suitable for the purposes of transfusion by being deprived of its fibrin. From a surgical point of view, of course, defibrinated blood has immense advantages. No one, who has not made experiments on the subject, can fancy the difficulties of transfusing blood from one creature to another without its coagulating."

"To defibrinate the blood previous to its injection disarms the operation of more than half its difficulties and dangers. There is no occasion for undue haste; there is no risk of embolism from clots; the serum, the salts, and the blood disks—all the vivifying elements, in short, are present. Nothing is left out save what is physiologically useless, if not injurious and surgically dangerous."

Notwitstanding all this, most leading men in this field of study prefer (mainly, as we think, upon theoretical grounds) the use of natural blood, or as nearly this as it is possible. While we are not prepared to deny the soundness of their views, still there are practical objections, which will be mentioned in connection with the methods of operating.

METHODS OF OPERATING.

We will not consume time with obsolete instruments and methods, but direct attention to those of modern invention and practice, and acknowledged adaptability; these vary with the character of the operation chosen, whether "direct" or "indirect," "immediate" or "mediate." Where arterial blood is used for the immediate or direct method, no other apparatus is required than a tubular connection between the artery of the donor and the vein of the recipient, therefore no special description is needed, the heart in this case performing the work of propulsion. This method has been, for the most part, applied to arterial transfusion from animal to animal, and from animals to man. In transfusion from man to man, making it necessary to expose an artery, it is attended with too many objections to be readily adopted.

Blundell said: "There can be no doubt that blood ought

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to be transmitted by tubule merely when this method is practicable; but as we should probably meet with obstructions in operating in this way on the human body, I have been led to make experiments, with a view of ascertaining whether blood may not be absorbed and propelled by means of a syringe, without becoming unfit for the purposes of life."

These experiments of Blundell resulted in his invention of what he called the impeller, the gravitator, and the syringe, which introduced the first practicable method of transmitting blood from vein to vein.

The next improvement was Scott's, who, in 1826, invented the double-nozzled syringe, by which blood could be passed from vein to vein without an intermediate receptacle, and without exposure to the air. This latter instrument, which was complicated and cumbersome, seems to have incited Aveling (Physician to Chelsea Hospital for Women, 1863,) to endeavor to simplify the operation, by making it, as much as possible, resemble the natural process of the circulation. In the words of the inventor, "It consists of an india-rubber tube, to form an anastomosis between the emittent and recipient veins, and a little bulb in the middle, to act as an auxiliary heart." For immediate transfusion, Aveling's apparatus seems to fulfil the indications as perfectly as possible, the sole objection being the liability to coagulation within the tubes or bulb, which happened with me, on two occasions, while making use of it for experimental transfusion upon dogs. Blood tends to coagulation under all unnatural conditions, particularly when caused to pass over rough foreign surfaces, and this tendency increases in the ratio of the time of such exposure. All of these conditions are present in the Aveling syringe.

These objections seem to be insuperable, and appertain to any and every method yet made use of for passing blood from vein to vein, or from artery to vein.

Roussel, of Germany, has improved Aveling's instrument by attaching a cupping-glass to the end corresponding to the donor. The cup is provided in its interior with a spring

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lancet, by which the vein is opened after the cup is exhausted. Moreover, there is an arrangement by which the exhausted cup can be filled with distilled water, in which a little carbonate of soda is dissolved.

The object of all this is the prevention of contact of air with the blood, as it flows from the giver's arm. It received the prize at the Vienna Exposition. I fancy it must be a very great improvement over Aveling's.

Joseph W. Howe, Clinical Professor of Surgery in the Medical Department of the University of New York, has very ingeniously applied Dieulafoy's aspirator to the purposes of transfusion. The following is his description of the *modus operandi:* "A healthy adult, with good-sized veins, is to be selected, and a broad roller bandage tied around the arm above the elbow, care being taken not to make the bandage so tight as to prevent the circulation through the arteries. The forearm is then partially flexed and the hand made to grasp tightly a round piece of wood, or other hard substance. By this forcible contraction of the muscles, the blood is driven into the superficial veins, and the bandage prevented from pressing on the brachial artery. When the vessels are distended the needle is inserted obliquely from above, downwards, into the median basilic vein; the operator grasps the rubber tube between the thumb and finger, turns the stopcock of the aspirator, and allows the blood to rush on and fill up the cylinder." During the whole process the aspirator is kept in a basin of warm water. In the meantime the vein in the patient's left arm should be exposed; an assistant grasps the arm above the elbow and presses on the basilic and cephalic veins; these vessels are thus made sufficiently prominent to guide the operator in his incision. An incision is next made through the integument and fascia, an inch above the elbow and on the inner side of the cephalic vein, the distended vein will then bulge into the opening. The needle is then inserted in the vein, and the healthy blood thrown from the aspirator into the circulation of the ex-sanguined operator.

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Where the immediate method is chosen, the above device would seem to offer great advantages, inasmuch as the blood is entirely protected from contact with air, and, with an expert, the time consumed must be reduced to a minimum.

The Mediate, or indirect, Method of Transfusion.—At the present time, this method implies the use of defibrinated blood. In this case coagulation does not enter into consideration, therefore almost any syringe may serve our purpose, provided necessary precautions are taken for prevention of entrance of air into the veins of the recipient. Still, as it is better that the blood should pass in at an even, easy rate, there are preferences among instruments worthy of mention.

From my experience, with many varieties, I would particularly recommend one invented by Prof. Robert McDonald, of Dublin, Ireland. Described in the language of this gentleman, "It consists of a strong pipette, which, with the pressure of air from the mouth, is quite sufficient to force in the blood. To this pipette is attached a rubber tube of convenient length, to this a short piece of glass pipe—for the purpose of seeing the blood pass,—and, finally, a silver nozzle is connected with the latter by another short rubber tube." (To facilitate insertion, the glass tube should be somewhat pointed. This latter improvement is due to Dr. F. L. Wadsworth, of Chicago, and I find it a very great convenience.) "The silver nozzle should be neatly made, probe-pointed, and, at the base, the size of a No. 6 catheter. There is no opening at the end, but an eye, or side opening, at some little distance from the probe point. The additional instruments and means required are: a thumb-lancet, small forceps, fine scissors, two clean quart bowls, a fine linen pocket-handkerchief for a strainer, and a quantity of hot water. Some healthy person being selected to donate the blood, it should be drawn from a good-sized opening in the vein into a perfectly clean bowl; it is to be stirred, as it flows into the bowl, with a glass rod (or other convenient implement); as soon as the shreds of fibrin are found clinging on the end of the rod, (this occurs in about five or six minutes,) the blood is to be strained through muslin,

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previously dipped in hot water, into a second vessel; this second vessel should be kept sitting in a basin of hot water, at a temperature, ascertained by the thermometer, of about 105°. The blood is now ready for use, and has only to be maintained, for a little time, at the due temperature.

"The pipette is next to be got ready, that is to say, the blood is sucked up into it until the bulb is filled, the tube and nozzle are adjusted to it, and a spring clip put on the tube, so as to prevent the escape of blood; when filled and ready, it may be placed in a deep vessel containing water at the proper temperature."

Next, expose a vein of the recipient: this is best done by seizing (with thumb and finger) a fold of skin over the median basilic, or cephalic; transfix with a small, sharp-pointed bistoury, and cut outward until the fold is severed, when the vein will be exposed to view; if the vein is too much obscured by connective tissues, dissect some of it away. This being done, seize the vein with the fine forceps, including, if possible, about one-half its calibre; then, with fine scissors, or knife, cut a tongue-shaped flap from below upwards, to the extent of a quarter of an inch; next, still maintaining a firm hold of the flap, insert the silver nozzle as far as the eye; then connect with the tube of the pipette, and allow a little blood to flow through the eye, before inserting it deeply. This latter expedient clears the lower part of the instrument of what little air might remain at the point. Finally, pass the nozzle to the shoulder, and the blood will pass in, slowly and evenly, without other force than weight and atmospheric pressure.

Should the patient show symptoms of distress, such as dyspnœa, or other unpleasant manifestations, the flow of blood can be stopped at once by placing a finger over the mouth of the pipette; thus, we perceive, this instrument is quite controllable, and withal, its position being perpendicular, air-bubbles rise and escape at the mouth of the pipette, thus obviating one of the greatest dangers in transfusion.

The symptoms attending transfusion are frequently alarming, particularly when the direct method with arterial blood

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is practised. Excessive dyspnœa, sense of impending suffocation, acute pain in the loins and pelvis, profuse discharges from bowels and bladder, albuminuria, copious perspiration, etc., may be mentioned as common. The degree of severity of these phenomena seems to depend upon the rapidity of the injection, together with the quantity used, and, we might add, the condition of the heart and blood-vessels.

In anæmia, the result of chronic disease, the heart is debilitated to such a degree that a sudden imposition of increased labor is more than it can meet successfully, hence, the perturbing symptoms above-mentioned. Even in the absence of anæmia or weakened action of the heart, a sudden introduction of an additional quantity of blood increases the arterial tension to such a degree as to cause great disturbance in the circulatory functions.

Transfusion for sudden hemorrhage is not attended or followed by such manifestations, for in such cases the heart force is only temporarily reduced, and is capable of resuming its normal power as soon as it feels the impulse and vivifying influence of the injected blood. Still, in either case, it is safer to inject slowly, that the heart may have ample time to adapt itself to the incoming blood. It is self-evident that such precaution cannot be adopted in transfusion from artery to vein, and it has been precisely in the practice of this method that the most threatening symptoms have been developed, and, in two cases, (one by Hotz and another by Hasse,) has resulted in death.

The quantity of blood injected must be regulated by the state of the patient. For recent hemorrhage it is desirable to restore the amount lost, though much less will suffice. Brown-Séquard says that even two ounces will often restore animation, and I have often verified this observation upon animals.

For reasons already stated, in anæmic conditions only small quantities should be used, say from four to twelve ounces, according to symptoms induced, whenever these become threatening the operation should cease; but we have found that tolerance is increased vastly when the blood is caused to

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transfuse slowly—within certain limits, the slower the better, in all cases.

Of the comparative merits of human and animal blood, Hasse says: "The first and chief advantage of direct transfusion of arterial lamb's blood over the indirect transfusion of man's defibrinated venous blood is, that the former is more effective and enduring than the latter." However, having carefully perused his report, of sixteen cases of transfusion with defibrinated human blood, and his fifteen cases of transfusion with arterial lamb's blood, I am forced to the conclusion that he is strongly affected with a theory, which serves to warp his judgment. I am supported in this opinion by the recent experiments and conclusions of Prof. F. C. Hotz, of Chicago, with arterial lamb's blood, which I shall take the liberty of quoting; he says: "we have operated five times for phthisis, three times for chronic anæmia, and once for hemorrhage, with this result: that the operation was a failure in six cases, it caused death in one patient, and two patients, only, were permanently benefited. Our experiments, therefore, do not corroborate Dr. Hasse's observations, although some of our patients offered the most favorable conditions for a good result (cases of simple anæmia). But there are other facts which, just as strongly as our experiments, speak against the probability of permanently benefiting human beings by a transfusion of animal blood." In confirmation of this, Prof. Hotz quotes Landois and Ponfic, of Germany: Prof. Landois says, "in transfusing one animal with the blood of a different species, (*e. g.*, rabbits with the blood of sheep,) I found that the serum of blood of one animal dissolved the blood-corpuscles of other animals; portions of blood taken at different intervals after transfusion showed the corpuscles in all stages of dissolution; the hemoglobin of the destroyed cells was disposed of, primarily, by the kidneys."—*(American Journal of Medical Science, October, 1874.)*

Prof. Ponfic "could examine the blood of a woman who died, twenty minutes after the transfusion of lamb's blood. He found her blood full of small, yellowish elements, the

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largest of which were two-thirds the size of human blood-cells, and then there were smaller of all grades, down to the finest granules. The shape, color, and chemical reaction characterized these bodies as blood-cells on a reduced scale; besides these were the regular number of blood-corpuscles, which were larger, by one-third, than the lamb's blood-cells. *Debris* of red corpuscles were found enclosed in the white cells."—*(Berliner Klinische Wochenschrift, 1874.)*

Notwithstanding these physiological and pathological objections, such leading men as Hasse, Heyfelder, and others, of Germany, continue to transfuse with lamb's blood, to the exclusion of human blood, and, according to their declarations, with most astonishing success. Hasse claims ten cures from anæmia, caused by chronic diseases of various kinds, not necessarily fatal in character. Judging from the accounts given, the recoveries were greatly accelerated in consequence of the transfusion. He reports five cases of phthisis pulmonalis, treated in the same manner, in which death does not seem to have been very much postponed, although remarkable benefits are claimed to have followed, inasmuch, that the patients, one and all, seem to have been temporarily benefited in strength, appetite, and spirits; moreover, there was marked improvement in the local symptoms. Nevertheless, he does not seem to have repeated the treatment, in a single instance, in the same individual. Furthermore, the patients do not seem to have been desirous of a repetition of the dose, neither does it appear to have been urged upon them by this zealous operator.

Heyfelder reports 32 cases of transfusion, of which 28 were with human venous blood, and 4 with lamb's arterial blood; of these latter he claims one cure—a case of anæmia; the others were affected with phthisis, in which there was marked temporary improvement following the transfusion. Prof. Heyfelder further remarks that "cures are by no means so constant as reported by authors and others, who, more theoretical than practical, have been engaged in experiments on this subject."

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Dr. Freiderich Lander states that the result in tuberculosis is of temporary benefit only.—*(Berliner Klinische Wochenschrift, No. 15.)*

Respecting the effects of human blood, made use of for similar affections, as reported by these experimentors, the results were not unlike those treated with lamb's blood. In each, we believe the apparent benefits to have been due to the highly nutritive influences of the blood thus introduced upon the tissues and organs. In fact, it is probable that in this we have the key to the whole subject, which is, the well-known relations of blood to nutrition, and of increased nutrition to amendment of diseased conditions. Therefore, the advantages derived from transfusion, in cases of debility with anæmia, are probably due to this direct method of supplying the wants of economy, which had hitherto been denied, at least, in part, because of the disability of the digestive system, usually attending such conditions. Anæmia depends mainly upon want of balance between supply and waste, and as the latter continues, even while the former may be withdrawn, impoverishment of the blood is the inevitable consequence. By transfusion of blood in such states, we simply anticipate the functions of the digestive organs, and furnish the system, in the most direct manner possible, the means of counteracting losses by destructive metamorphosis.

Taking this physiological view of the subject, we are enabled to account for the striking temporary improvement manifested, after transfusion with blood, in cases of phthisis pulmonalis, as noted by Hasse, Hotz, and others, also, to give a rational explanation of the gradual declension of these patients to the former condition. In fact, in this manner, for the time being, the means are furnished for a more or less successful warfare against disease and natural waste; but if the digestive organs do not, in the meantime, profit by this respite, and regain their normal power and activity, the tissues and organs must soon again be on short rations, while the patient naturally sinks to the old standard.

In view of these well-known physiological facts concerning

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the relation of nutrition to the maintenance of the body in health, and the promotion of recovery from disease, we can but wonder that these worthy experimentors in this field did not, at reasonable intervals, repeat the administration of blood, and thus keep up nutrition until such time as the organism, being sufficiently recovered, might be able to provide for itself in the usual manner.

Hasse says: "As the greatest gain in this collection of observations, I would like to call attention to the characteristic help we have found in it against phthisis pulmonalis. The general condition of these patients left almost nothing to desire, and the local lesions were certainly improved."

Hotz says: "All the patients experienced an improvement of their feelings and appetite for the four to six weeks following the transfusion." Are we not, therefore, warranted in concluding that, had these patients, as soon as the effects of the first transfusion began to decline, been served with another dose of this salutory medicine, they might thus have been carried over into a better and more permanent state of well-being?

The immediate and permanent benefits observed in transfusion for sudden and profuse hemorrhage, is easily explained, for in such cases we at once restore, in kind, that which was lost. The patient is resuscitated from a state of asphyxia by the restoration of the red blood-corpuscles, and the oxygen-carriers, and, therefore, essential organs of respiration, and thus all the functions are at once reinstated.

In case of danger from acute hemorrhage, so certain is transfusion of normal blood to resuscitate and restore to life, that we feel warranted in asserting, emphatically, that the practitioner in charge is under the most sacred obligation to perform this operation of transfusion. Moreover, once acquainted with his duty under such circumstances, he should lose no time in acquiring, if he has not already, both means and skill to meet all exigencies of this kind.

With such potent means at command we need not despair, even in cases that have reached the condition of insensibility

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and suspended animation. The following case, we hope, will serve to convince the incredulous of the above declaration:—The patient, James Arnold, aged about 25, on account of R. R. injuries, involving total destruction of left upper extremity, including the shoulder-joint, with severe scalp-wounds, was brought into Cook Co. Hospital at midnight on April 28th, 1874. The hemorrhage had been profuse, particularly from the temporal artery, which had been severed. The shock from the injury was very severe. The next morning at 10 o'clock he was in a state of collapse, pulseless at the wrists, and insensible. I determined to transfuse, and was supported in this by his uncle, an intelligent physician, who happened to be present, and who generously volunteered the needful blood. To be brief, the result was speedy restoration of sensibility and revival of the pulse, color returned to the cheeks and gums, and the limbs soon regained their normal temperature. Transfusion was performed slowly, so that nearly an hour was consumed in injecting eight ounces of blood—the amount used. With the first ounce he regained consciousness, and before the expiration of an hour conversed with the by-standers, and drank off a glass of milk-punch with much relish. In fact, it seemed to those present like unto a resurrection from the dead, and, in consequence, expectation ran high, for all supposed the young man was rescued from impending death; however, these hopes were soon blasted, for, in removing him from the amphitheatre to his bed, he was seized with convulsions, and death at once closed the scene. We were not permitted a post-mortem, therefore, are left to conjecture as to the cause of his sudden demise; we think, however, that we are justified in concluding that a clot had formed in the heart —even before the transfusion—and perhaps this may have served to increase its magnitude, while the necessary movements attending his being carried to his bed might have served to dislodge it, thus causing embolism of the pulmonary artery. We cannot account for this sudden change from full promise of life to death in any other way.

Compared with the benefits derived, the dangers attending

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transfusion are scarcely worthy of consideration. As a result of this procedure, only two deaths have been recorded, and these were by direct means, with the use of arterial blood—the character of the dangers from which has been already mentioned.

The following experiments have been made, in order to ascertain the length of time that blood retains its nutritive and vivifying properties, after being drawn from the living vessels:—First. Wednesday, April 21st, a healthy, medium-sized dog was transfused with ten ounces of dog's venous blood, which had been drawn seven hours, during that time exposed to the temperature of a refrigerator. The operation was preceded by moderate depletion. No bad symptoms followed, and the dog remains healthy.

Second. Friday, April 23d, a healthy dog was transfused, without previous depletion, with eight ounces of dog's arterial blood, a part of which had beeen drawn seventeen, and a part twenty-three hours, and exposed to the temperature of the laboratory—about 60° F. No bad symptoms followed, and the animal remains well.

Third. Wednesday, April 28th, a medium-sized dog was first bled from the left carotid artery to a condition of insensibility—twenty ounces having been drawn—and then transfused with dog's venous blood, that had been kept in a refrigerator seventeen hours, Eight ounces were returned. He resuscitated as promptly as is usual with recent blood, and no bad symptoms followed.

Fourth. A healthy, medium-sized dog was bled from the carotid artery thirty-two ounces; insensibility was complete, and, a few minutes before transfusion, respiration had ceased. He was then transfused with ten ounces of dog's venous blood that had been drawn and kept in a refrigerator forty-eight hours. Resuscitation was as prompt as with fresh blood, although he died in less than nine hours.

Fifth. May 3d, a small, young dog was first bled six ounces, and then injected with seven ounces of dog's arterial blood, that had been in the refrigerator seventy-two hours.

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No morbid symptoms had followed, as late as May 15th. I wish to acknowledge the able assistance of Dr. F. L. Wadsworth, not only in the pursuit of the foregoing inquiries, but in most of my labors, upon transfusion. The foregoing experimental observations have given results which must be somewhat unexpected to those who have learned to look upon the blood, particularly its cellular elements, as possessed of vital properties, like other organized tissues, and subject to death when removed from the influences of the living organism.

As for myself, although I had long entertained the notion that blood represented the proximate principles of the food, raised, through the influence of the digestive and assimilative powers, to the highest state of chemico-physiological combination and perfection, yet I must acknowledge that I was not prepared to find it capable of retaining, for such a length of time, its normal properties, when separated from its natural relations. Moreover, these experiments have served to show that the red corpuscles, although acknowledged to be organized, are not subject to the laws that govern other tissues of the body, for these latter, when separated from their living connections, but for a few moments are thenceforth incapable of resuming their original functions.

The practical value of a knowledge of these facts we believe to be of great importance, in relation to the operation of blood transfusion, for this knowledge removes apprehension concerning the integrity of the blood, when transfusing leisurely, which is essential to successful avoidance of distressing, if not dangerous, symptoms; also it renders it possible to save up blood for future use, the convenience of which must be apparent, particularly if we are justified in using animal as well as human blood for such purposes.

Dr. W. P. Peirce, in the Chair.—What shall be done with the paper?

A motion was made and carried unanimously to refer it to the Committee on Publication.

The President, Dr. Hollister, in the Chair.—I presume the question is in

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the minds of most of you whether a time may not be appointed for you to see a demonstration of transfusion, and it is to be hoped that a time will be designated as early as possible for the enjoyment of this privilege; but the hour has now arrived for which papers are definitely assigned. I presume the regular order should take its course. A time for the demonstration of vivisection will be announced hereafter.

The Secretary announced the recommendation of J. F. Todd, Dr. Church, Ellen A. Ingersoll, and A. Reynolds as members of the Association. Referred to the Board of Censors.

The Secretary read a letter from Dr. E. L. Holmes, expressing regret at his inability to be present at the meeting of the Association, and announcing that he had prepared a paper, which he would be glad to place in the hands of the Publishing Committee, if it should be the wish of the Society.

The Secretary submitted a report of the Board of Censors, recommending Doctors Winterbottom, Allen, Cox, Robert Briggs, and Jno. G. McKinney as members of the Association. The report was received and the persons named elected.

The Secretary next read the report of the Board, in regard to the reception of delegates from the Jersey County Medical Society. The Committee reported that the evidence was, that the Medical Society in question had been tolerating practises not in accordance with the ethics of the Illinois State Medical Society and the American Medical Association, which, if continued, must exclude their delegates from this Society. The Committee are, however, led to believe that the irregularities are being curbed and controlled. The Committee deemed it advisable, therefore, to admit the delegates at the present meeting.

A motion to adopt the report was made.

Dr. Van Horn.—I arise to make a little explanation. There were, some three or four years ago, irregularities practised by some members of our (Jersey County) Society, but for several years past, we have been unusually strict; we have been so strict that we have expelled some members, and other members have found it inconvenient to stay in because they could not practise their irregularities; and consequently they have made an attack upon the Society. I do not think there is, at the present time, in the State of Illinois, a society so strict as the Jersey

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County Medical Society. I do not wish it to go out that the Jersey County Association tolerates any irregularities whatever.

The recommendation of the Board was adopted.

The Secretary.—Will you take action on Dr. Holmes' letter?—He has prepared a paper for the Publishing Committee.

The President.—Unless the rule is suspended, the paper cannot be received.

A motion to suspend the rule was made and carried, and the paper was referred to the Publishing Committee.*

The President.—After conference with the Chairman of the Committee of Arrangements, I will say I know how strong the desire is on the part of many members to enjoy a little of the music for which Jacksonville is so celebrated, and I would suggest that there may be a few pieces of music at the opening of the evening exercises, and a few at the close, and, by nine o'clock, we can convene for business purposes. I do this to ascertain what your pleasure is with reference to a business session after the popular exercises this evening.

After waiting a moment, the President said he would take the liberty of announcing that there would be a brief presentation of a musical treat, after the lecture.

The Secretary announced that the members of the Illinois State Medical Society were invited to attend the meeting of the Medical Society in Pana, Ill., next July. The communication containing the invitation was ordered to be placed on file.

Dr. Prince.—I wish to make an announcement. Some of the members having evinced much interest to witness the operation of transfusion, Dr. Freer has consented to demonstrate the operation at 2 o'clock this afternoon. The operation will occupy a-half hour. Those wishing to see this in preference to going immediately to the Insane Hospital, will come here at that hour. We are sorry to bring these things together, but it cannot be helped. We can go immediately afterwards and join in the examination of those institutions.

The Secretary.—I would like to state that, at the close of the report on Obstetrics, I should like to present some gynecological instruments.

Dr. Prince.—At the close of the report of the Committee on Surgery, I would like to present a paper.

The President.—It is time that the Nominating Committee should be appointed. The Committee will consist of one delegate from each county represented in this Society. A recess of ten minutes will now be taken, for the purpose of forming the Committee.

* Dr. Holmes failed to furnish his report to the Committee, on account of ill-health.—PUB. COM.

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The Secretary.—It is understood that each county is entitled to one member of the Nominating Committee, so that, if there is but one member present from a county, he will constitute a member of the Committee.

NOMINATING COMMITTEE.

J. W. Freer, M.D.,, Cook Co.
J. H. Mosier, M.D., Whitesides Co.
D. E. Foote, M.D., Boone Co.
T. N. Stewart, M.D., Scott Co.
Thomas H. Whitten, M.D., Montgomery Co.
M. W. Seaman, M.D., Macoupin Co.
M. W. Walton, M.D., Stephenson Co.
F. B. Haller, M.D., Fayette Co.
E. Wenger, M.D., Iroquois Co.
D. Lichty, M.D., Ogle Co.
L. B. Slater, M.D., Christian Co.
W. A. Haskill, M.D., Madison Co.
A. P. Tenney, M.D., McLean Co.
Fred. Cole, M.D., Woodford Co.
D. L. Wood, M.D., LaSalle Co.
Samuel Mileham, M.D., Adams Co.
P. H. Garretson, M.D., McDonough Co.
T. J. Maxwell, M.D., Henderson Co.
G. W. Albin, M.D., Cumberland Co.
W. L. Goodell, M.D., Effingham Co.
A. T. Darrah, M.D., Champaign Co.
J. S. Williams, M.D., Jersey Co.
Geo. W. Wright, M.D., Fulton Co.
W. H. Veatch, M.D., Green Co.
J. G. McKinney, M.D., Pike Co.
W. G. Cochran. M.D., DeWitt Co.
J. V. Frazier, M.D., Mercer Co.
C. T. Wilbur, M.D., Morgan Co.
J. N. Allen, M.D., Brown Co.
J. L. Hayes, M.D., Edgar Co.
D. H. Alvis, M.D., Henry Co.

After the Society was called to order, Dr. E. P. Cook read the report of the Committee on Practical Medicine.

Dr. E. P. Cook.—I hope you will not be alarmed at the amount of paper I hold in my hand. I regret to say that the paper I present does not possess the merit which it would, had more time been taken in its preparation. We have another paper, from another member of the Committee, (Dr. Hamill,) on the treatment of rheumatism by phytolacca and guaiacum—I think it is a paper of much value. But I feel confident that my paper does not have that value which will warrant its being submitted to the Publication Committee. We have been in the habit of referring every paper to the Committee. We ought not to put in print, as a part of the history of this Society and its work, all the papers sent here. We have published much that is not worth referring to in after years, and it is just as well to begin with such a paper as I have here. If you should choose to put on record a vote of censure upon the Committee for presenting this paper, I should not object.

The President.—We have a rule that a paper that is presented in more than ten folios must be presented in abstract.

Dr. Cook.—I will leave you to indicate when you are tired.

Dr. Cook then read, as follows:—

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REPORT ON PRACTICAL MEDICINE.

By E. P. COOK, M.D., Mendota.

The duty assigned the Committee on Practical Medicine, as defined in the Constitution of this Society, allows a scope that is surely sufficient to gratify any desire your Committee may have had, at the beginning of the year, for original investigation or research; and, more fortunately still, not even limiting them there, but allowing also a liberty of selecting from the vast resources, the periodical literature—and all printed thoughts—facts and speculations—with which the profession is so well supplied. Can it be that, with all this, there still may be added something that will not only interest, but possess such merit as to demand of you a hearing, and be worthy of your attention and criticism? The right of the Society to impose the duty is beyond question.

The wisdom indicated in the selection of such Committee is very frequently questionable. You may conclude that the application of the latter may now be made.

Had the Committee been inverted or everted the danger might have been escaped; but now it is too late.

By too long delay in the assignment of varied duties to the several members, there came unforeseen difficulties in the way of the preparation of such a report as we would desire to present you; yet, as those loyal to the advancement of all that can make our State Society reach the requirements of the times and medical science, we prefer to come before you with such a report as it was possible to prepare, at the last of the year, instead of such as it should have been, had the work been methodically done, during that year, and at leisure.

We had contemplated a report that should be a summary of all changes in views, treatment, etc., of all diseases, so far as the facts could be ascertained by an acquaintance with the current literature and individual experience, etc. Such would be the general report; and, in addition to that, papers

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prepared by each member of the Committee, upon a single disease or topic—one that had from the writer received especial attention.

But such planning has proved to be chimerical—we are compelled to follow in the rut, so well-worn by those who have preceded us, as members of the same Committee, in the preparation of reports that, in print, constitute an important part of the history of this Society.

We have, with not a little interest, glanced over the reports that make much of the recorded history of the work done, during one-half of the Society's years—that particularly re-relating to the practical medicine—history of epidemics, endemics, etc., etc.—to find how slight have been the departures from the same lines of thought and expression, treatment and results.

If we did not know that, in most instances, the discussions elicited by these reports—whether made a matter of record or not—had brought out much that is of real value to those who either heard or participated in the discussions, we might, at least, be allowed the suspicion that their chief value was to those who had labored in their production. And, after once reaching the light in the sessions of the Society, it is well that—if ordered to the tender care of the Publishing Committee, and by them allowed a place in the ponderous production that is annually given to the profession to help fill our library shelves—they are so seldom either thought of or looked into.

But enough of this; and after all the criticism, for which there is ample cause, is it not left to those who follow us, in a similar work, to profit by our failures?

The writer will not attempt more than a brief reference to the peculiarities of the year, in all that relates to the conditions and influences that are known to affect the health of the people, and that stand related, approximately or immediately, in the causation of disease. Careful observations have not been made by your Committee, during the year; there has been no attempt at recording and tabulating tempera-

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ture, moisture, prevailing winds in different localities, atmospheric ozonization, marked epidemic or endemic manifestation of diseases, or influences, social or political, that may profoundly impress the nervous system, and increase the susceptibility to some diseases.

Neither, if we would, does the opportunity often occur to those engaged in medical practice, in our State, of studying the effects of a deficiency of food, as applying to large numbers, or of over-crowding in the homes of the poor and illy-fed. And yet, we would not be misunderstood as excluding some cases of deficiency, and many of fault in quality, as well as the very patent fact, that deficient ventilation, and want of cleanliness, existing generally, as conditions—without which the causes of many diseases would not be developed or would become impotent.

The peculiarities of the year have been, in the northern and central part of the State, at least: the extreme drouth, following a series of similar years; then a summer of great heat, followed by a delightful and protracted autumn, to be succeeded by a winter of such extreme cold, that, as is popularly said, the recollection of the oldest inhabitant is unable to refer us to its equal; and of such length that it is only within a few days, that we feel assured that we have escaped its rigors. We would not feel warranted, as yet, in concluding, that such extremes of heat, and cold, and drouth have changed materially the general health-standard, or type of diseases usually met with.

But may we not anticipate, when we have returned to the extreme of wet and heat—that with which the inhabitants of these Western States have repeatedly been familar—a washing out into the water channels, and into the receptacles for water used by the people, of organic germs, and products that have been brought into existence by the continued, and hitherto unobserved, drying of surface and subsoil by drainage and evaporation; or if, as is probable, we misuse the term germs, we may speak of substances, animal and vegetable or chemical, which, being present in such soil, may, by being

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permeated by the air, undergo changes, the character of which we know little, but by which they become sufficiently potent to become important factors in the production of endemic or epidemic diseases.

This much by way of speculation; and, in this connection, a reference may be made to conditions so commonly existing about or in the homes of most of the people.

It is not necessary to go to our large cities to examine the sources of sewer gases, or to study the effects of faulty drainage, as applying to the houses, etc., of very many. Much of the obscurity, to which reference is so frequently made when attempting to find the disposing causes of endemics and even epidemics, may be removed by a careful inspection of this source, with that of all depositories of excrementitious products.

Perhaps chiefly by the water supply, but largely, too, by the inhalation, do the disposing causes, and in some instances the specific causes, of the gravest forms of disease reach their victims.

Inferentially, then, it is for the votaries of Medical Science, through municipal law and as teachers in Sanitary Science, to hasten the time for the removal of such causes of disease; and we hesitate not to say that the greatest triumphs of our science in the past, as well as prospectively, have been and will be in this direction.

As an art, medicine has sought to cure disease, as a science she prevents disease—in the one case dealing with and attempting to remove pathological conditions, and in the other seeking to sustain physiological processes.

It occurs to us here, that in our Society the prevention of disease has received from us little attention: we have been willing to turn this whole matter over to Social and Sanitary science conventions. We have labored long and faithfully on reports of our triumphs in the cure of disease, or, by our good fortune and skill, the discovery of some agent, or combination, that has proven to possess virtues of such value that they may be even found in prescriptions for a series of years, and to be

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succeeded again by something that had long since been nearly abandoned. And it is well thus to persistently search after all that will protract life by alleviating suffering and removing disease, not forgetting, however, that certainty in medicine can be demonstrated by the one (prevention), while we must patiently labor and wait for the other.

We record the fact, with pleasure, of the growing conviction in the profession that a knowledge of disease must be preceded by a knowledge of health—that we can only understand what disease phenomena mean when we have learned what physiological processes are, and that at the foundation of a knowledge of disease, it is essential that we learn all of the knowable regarding the causation or etiology, etc., not only in view of greater success in prevention, but as important aids in ascertaining the essential character of disease processes.

Perhaps it is worthy of mention that, during the year, renewed attention has been given to the view advanced long since by Athanasius, Lancisi, Kircher, and others, and lately elaborated by Henle (1840 to 1853),—but not until within the last ten years has received much attention,—that of the existence of a *contagium vivum*, or theory that the poison of infectious diseases consists of living beings or low organisms—animal or vegetable—and so recently ably defended by Liebermeister, and of which he says:—"The prophecy which I believed myself justified in making in 1865, *viz.:* that the theory of a *contagium vivum* would soon be the prevailing one, and that under its influence investigation would take directions that would probably lead to results of the greatest theoretical and practical importance. This prophecy has actually been fulfilled, in part, during the last few years; a great number of the best experimentalists are the declared adherents of the theory. At any rate, it is now admitted, even by those who do not unreservedly acknowledge the theory of a *contagium vivum*, that it represents the view which points, more clearly than any other, to order in the chaos of facts."

And that each of the acute infectious diseases, including typhoid and typhus fevers, dysentery, diphtheria, etc., results

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from a specific poison, or *contagium vivum*, as has long been admitted of the acute and chronic infectious diseases—variola and syphilis.

The most advanced position reached thus far is the one now held in regard to the etiology of infectious diseases; and should they be sustained by future investigation, "the conclusion will become more and more evident that a symptomatic classification of diseases is unscientific, because it regards unessential similarities and differences as more important than the real *materies morbi.*

"Gradually there came to be a classification on the basis of pathological anatomy, as well as symptomatology, and finally the former attained the undisputed sway."

The great advances which pathology and diagnosis have made in the present century are attributable, mainly, to the carrying out of this principle.

But, as in all experimental science, so, also, in pathology, the conviction is growing that, in the investigation of diseases, the idea of causality represents the last point to be reached; and, accordingly, the most scientific rule of classification must be etiological; and, as Liebermeister well says, "If the etiological principle is carried out upon the ground prepared by the anatomical discoveries, it promises to do as much, or even more, for therapy."

"We shall always be learning more and more how to grasp the trouble at its root.

"The *indicatio causalis* will again assume a high position in therapeutics, and we shall find more efficient remedies with which to answer it.

"And, finally, in many diseases we shall have a successful prophylaxis, which may make therapeutics, in the narrow sense of the word, superfluous—a thing that could hardly be hoped for under the old ideas. The science of hygiene, which has already made such extraordinary advances in its still very obscure beginning, is an outgrowth of the etiological principle, and is so firmly rooted in it that the two cannot be disconnected."

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We have, at greater length than we intended, referred to subjects, each of which are of such interest as to demand, for their discussion, a long and carefully-prepared report, and, to be more practical, will, with equal brevity, write of three or four of the acute diseases that have come under the observation of the writer during the year:—

First, of pneumonia, as a typical acute inflammation, and one with which the busy practitioner becomes familiar from the beginning of professional life. Our discussion of the subject will chiefly relate to treatment.

During the last two years, thirty-two cases have been treated, all occurring in the Winter and Spring months—from December to May—age varying from 6 to 28 years, not, in the number, including children under the former year, nor cases unquestionably lobular, or so slight as to be questionable.

All sporadic cases, and no especial endemic or epidemic influences apparent, with the exception that a small proportion of the cases were, or had recently been, suffering some from malarial poisoning; aside from that no unusual depressing influences had been at work. Nearly all made quickly the transition from health to that of sufferers, with an active inflammation of a vital organ.

We will not attempt, for the reason that we could not, to, accurately, classify the cases as relates to age, extent of lung tissue involved, pleuritic or other complications, but can definitely limit the cases of double pneumonia to two; by that we mean such an extensive involvement of lung tissue that physical exploration did not reveal any portion free—a position which is not, probably, literally correct.

It is fair that you should demand carefully-prepared statistics, when a subject like this is discussed, but, unfortunately, they are not at our command, and yet, as to the most important practical points, we have preserved enough—by the record and memory—to entitle us to reach conclusions that to us are satisfactory: result, thirty recoveries, one of the cases in which both lungs were involved proving fatal.

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The general result was also satisfactory, for the reason that we had thought it out of our power to do better with that series of cases. We remember very well, in former years, of treating a larger number without losing any, and treating less and losing more.

And we think that statement of the case is one that is very frequently forgotten by the profession, when we come to make comparisons and draw conclusions, of the respective merit of this or that treatment, disregarding the fact that an equal number of cases of the same disease, age, etc., are not necessarily attended with the same grave difficulties, both as to essentials of each case as well as the care, thus very seriously lessening the value of statistical reports.

And again, the diversities which diseases present at different times and places, as well as the classes of persons attacked, including individual peculiarities—facts which, with our present knowledge, are difficult to explain—as to how much it is due to the intensity of the cause, differences of susceptibility, etc., the disease under consideration, for instance, illustrates that fact.

These, with other general facts, have such bearing, that it will only be possible to gather reliable (even then imperfect) statistics, when all such facts enter fully into the classification that must be the basis of all statistics. And if such statement applies to medical statistics, does it not, with greater force, apply when we come to discuss treatment.

We have long thought pneumonia was a typical acute inflammatory disease, as relates to the utility of therapeutical interference with its progress, that here, if anywhere, we could rest our case in determining the actual value of active medication in materially lessening the duration of disease, controlling suffering, and conducting to a favorable termination. And even here we are met with the happy fact that this, as well as nearly all diseases, will, in a large percentage of cases, terminate in a restoration to health, but with that admitted, no less would the aid of the judicious and skilled physician be needed in his offices. We must say that we have never reached the

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degree of skepticism expressed by some as to the utility of medicine, in its application to the treatment of diseases in general; and, as one of the firm convictions which we entertain, that of the potency of medicines, with all the adjuvants, at the command of the qualified physician—a conviction that is no longer questioned.

We may treat pneumonia, in view of arresting or cutting short the disease: 1st, abortive; 2d, waiting and watching—*expectantly*—or by a combination of both of the methods, thus making a third, and the choice should be made as each case is presented, and the general resort to the one or the other determined by the conditions to which reference has before been made—a careful study of each case, the natural history of the patient, the history of the inception of the disease, with the knowledge acquired from other cases, if any have been seen preceding it the same season.

If the case is seen sufficiently early, the abortive treatment may be resorted to in some cases with the most satisfactory results; and even if failure follows, the future progress of the case is not necessarily rendered more serious, nor is convalesence protracted, or life imperilled.

Very seldom have we seen cases so early as to feel justified in commencing with a treatment that was sufficiently energetic as to be strictly entitled to that designation, if we mean by that a literal cutting short of the existing disease processes, and an immediate return to health.

If so, and it is claimed to be possible—certainly in the case of pneumonia, we would at once question the diagnosis, and either the term is a misnomer, or it should be less restricted in its meaning.

Certainly at an early stage however, with all the conditions existing that, if undisturbed a little longer, make a pronounced case, treatment decidedly energetic may abort the disease; but, even then, we must have a case of idio-pneumonia, which is confessedly rare, as is also an uncomplicated case, but much less rare however with those of us in rural practice, and in localities comparatively free from malarial influence. We

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have, however, met with cases of that character, and by energetic treatment, apparently arrested the disease, in recent years—not however including venesection.

The writer's first years of observation, as student and physician, came as the profession were approaching a transition period—indeed, some had passed it—the abandonment of the so-called antiphlogistic treatment—the lancet, active catharsis, emetics, emeto-cathartics, etc.

But still he well remembers, in the practice of his father—who began practice in 1815 to 1818—the time when the lancet was considered one of the great essentials in the armamentarium of the physician. Indeed the writer's induction to professional life, in some sense, was in the humble duty of holding the bowl to catch the blood—a duty of nearly daily occurrence.

How frequently then—immediately after a diagnosis was reached, or possibly often earlier—the bowl, the bandage, and the broom were ordered, the sleeve rolled up, the bandage adjusted, and, with precision, the bright-bladed lance plunged into the vein, from which would flow the crimson current, instead of, as now, the paper and pen with which to order the apothecary to prepare those wonder-working combinations that we have reached by our polypharmacy. It is true, the venesection was, very probably, followed by the drugs, but not necessarily and always; and, again, we well remember that, at that time even, there was much questioning in regard to the advisability, much more the necessity, of free bloodletting. The fact was not appreciated that, as a rule, acute inflammatory diseases, once fully established, would, under favorable circumstances, independent of any such treatment, pass through their various stages, to resolution possibly more protracted, but making a favorable termination—they dreaded the results or sequilæ of inflammation more than we.

In 1848, a circumstance occurred, that is distinctly remembered—the bleeding of a patient—whose condition was such that the physician consulted thought the treatment should

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be premised by venesection; syncope occurred suddenly and unexpectedly, with nothing to explain it satisfactorily, unless there was back of all some unusual condition developing *de novo;* there was, indeed, for he was the patient that, in that community, was first to be stricken down by typhoid fever. The bleeding was regretted; yet the physician claimed that the initial symptoms, in many cases, would have warranted bleeding; and the same physician remarked that, in Brownsville, Pa., in 1815–16, venesection was resorted to with good results in a very severe epidemic of typhus.

Many of the older physicians, of from 1832, down even to to-day, cannot look such facts over without being driven to the view of the change in the type of diseases, not as a scientific expression, but as a clinical fact.

And now, as the question of bloodletting is coming up again for discussion, with many of the workers in medicine of years ago still with us, will it not be well for us to hear from them while we may? Most certainly, since even they are seeking to reopen the question—not content with their former reasons for having abandoned it. We are informed that the great surgeon, he whom the profession of the country delights to honor, has recently, at the Session of the American Medical Association, called the attention of the profession to this as one of the lost arts, that will and should be restored, not, we suppose, as it was in the days of the fathers, when, should the doctor be summoned, and a pressure of business prevent his immediate personal attention to the patient, the instruction was given, that the blacksmith or gunsmith should be notified and requested to bleed him to fainting, or draw one to four pints of blood, and that as early as possible thereafter the doctor would see him.

But rather, as one of the most potent means at the command of the physician for good, if resorted to with that discrimination and care, that is requisite to a proper use of all means for the relief of suffering and treatment of disease. If it comes in that way, speed the day when we shall not fear to open the vein and lessen the quantity of the blood-

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current. But we did not propose to discuss the merits or demerits of bloodletting, only so far as it was proper to make reference to it as one of the means to which resort may be made, if our pneumonia case is one in which we would attempt an abortive treatment.

There is this of merit in an abortive treatment that, if successful, the danger is avoided, and if, as has been referred to, we fail to quickly arrest disease (conditional to having carefully selected our case) the gravity of the symptoms need not be increased, or may be counteracted by the earlier use of stimulants, with an immediate attention to the selection and administration of nourishment.

Other means are at our command, however, that do not lessen materially the blood volume—various agents that make a sedative impression upon the organic life of the body. Nature sometimes does it spontaneously. External as well as internal, means, the impression of heat or cold, external, with a generous resort to counter-irritants.

Free emesis, with the hot bath—preferable, as we have tried it; by enveloping the patient, from chin to toes, in a blanket that had been immersed in hot water, containing mustard or capsicum, accompanied and followed by the free use of acidulated drinks, and, in some cases, a generous opiate; all of this followed by a relief to all severe symptoms, refreshing sleep, lessened temperature, less embarrassed respiration, etc. And, in short, a relief of all severe symptoms—placing the patient on the list of convalescents.

We exceedingly regret, at this stage of our report, to be compelled to resort to that, which at several times in the Society, has been suggested in the case of regular reports, and those of great length, as being preferable to the full reading of them, *i. e.*, an abstract of the matter contained in the papers, the subjects discussed, especial line of thought and treatment.

A want of time compels us to so present that which we had intended should be the feature that would give value, if it were possible, to this paper, *i. e.*, the completion of the dis-

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cussion of the treatment of pneumonia, and some points in the examination of diphtheria, with its treatment. And, also, of fever, particularly of treatment, the old views and the new. Very briefly then, to complete the subject of the treatment of pneumonia, we should refer to the expectant treatment, and approvingly, as applies to a large number of cases. It may be said, however, that, strictly speaking, in its proper application, expectancy, as designating a particular plan of treatment, confesses, in the very term that it relates to the course to be pursued in that class of cases that will pass safely through their course without treatment, in which the duties of the physician are comprised in that of the nurse.

And to those of which we may as well admit our ignorance, the powerlessness of our art, and that are hopelessly beyond the possibility of our help, we may so elect to treat many cases—meeting indications as they arise, studying our cases as they progress—which should be done, it may well be said, in all diseases, no matter what may be the treatment pursued.

Anticipating the tendency to death—expectancy then, in the disease of which we write, would be to make the condition of the patient as comfortable as possible—by relieving pain, securing rest, administer nourishment, and wait for resolutions, convalescence, and recovery; or study the consequences of diseases, the relief of which was beyond our power.

Lastly, of the treatment that includes both, or that might be called the middle course, or rational treatment—neither claiming that it is in the province of medicine, by heroic means, to abort the disease in a sufficiently large number of cases to make it often advisable to attempt it, appreciating the additional risk to which he may be subjected. Nor admitting of medicine that it may not very materially lessen the number of cases of delayed convalesence, and the sequelæ or imperfect recoveries. And that, including cheesy pneumonia, cardiac disturbances, etc., make a list that places pneumonia or its consequences, as a disease, much to be dreaded, and fruitful of results, that a long watching after the acute disease had

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passed from the observation of the attending physician, would reveal the persistent existences of consequences that may sooner or later develope into grave diseases, involving important structures and reimperilling life.

But this introduces a subject that, if followed out by careful observations, would be fruitful of interesting and practically valuable results.

Such treatment does include the resort to blood-letting in a relatively small number of cases—in some immediately followed by alcoholic stimulants; indeed, while the blood flows from one arm, the other may soon carry stimulants and food to the patient's mouth. Utterly discarding the idea of venesection, where there is evidence of general or especial depressing influences, malarial, scorbutic, typhoid, or that may possibly put some cases into the class of acute infectious diseases.

Of the latter we have observed few. We would not object seriously to being limited to the following list of drugs, without attempting to follow out their application: muriate of ammonia in all cases; opium in some, but not as freely as it is used by most physicians—when a heart sedative, as well as heart toner is required; digitalis, or a sedative (potential) that may with advantage be used in many cases, combined with the ammonia, aconite, or veratrum; the former to be preferred in many cases. And last but not least—indeed may lead the list in some cases: quinine, in 5 to 10 grain doses. So much for the internal treatment. Of great value, the external local and internal local treatment—the latter, *warm, moist air*, with as nearly perfect ventilation as possible, in all cases, and the external application in most cases of warm poultices, enveloping the entire chest, counter-irritants and turpentine, mustard, capsicum, etc. With the external use of cold ice bags, etc., we have had no experience, have not found sufficiently good reasons for resorting to them; and, indeed, would hesitate to do so.

Such is an outline of the treatment that was pursued in the cases to which reference was made in the beginning of this

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paper, and that we have found to be very satisfactory in its results.

It is now, at this late hour, before the convening of this Society, too late to complete this paper. We must close with a reference to the renewed attention the profession is giving the subject of the application of cold in the treatment of fever; we refer particularly to the external use of cold water, in essential fevers, and some of the exanthemetic, as our best anti-pyritic with a very great range of applicability.

Is it not a matter for astonishment that this has been so long neglected; that even in the days of Galen it was employed; that it was left for Currie to first systematize and improve upon it; and later, Brandt, of Stetting, brought it before the world as a new-born treatment, and that recently Jurgensen, of Keil, has given it the stamp of permanent usefulness by his scientific clinical labors.

We record with pleasure the attention and interest that the profession is giving to the subject of public health: climatology, meteorology, etc.; to the organization of State Boards of Health, and to the instruction of the people in a knowledge of their interests in this direction. And also, to the importance that some action should be taken by this Society to hasten the formation of local societies, chiefly county, in every county of our State, and the establishment of standing committees by the local societies, or selection of physicians, whose duty it would be to annually carefully observe, record, and prepare for presentation to the same, and transmit to a committee selected by the State Society, all matters that would cover the ground comprised in the subjects, that it is the duty of the committee on practical medicine and epidemics, etc., to report upon.

HISTORIC.—As far as we have been able to gather information through the northern section of the State, there has been nothing unusual in the acute diseases that have prevailed during the current year, if we except the very general prevalence of an anomalous eruptive disease, that, though not observed by the writer, yet from statements made by a number

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of physicians, under whose observations it came, we infer that it possessed much of interest, though seldom, if at all, so serious as to prove fatal.

It is described as in some respects resembling both *rubeola* and scarlatina in its symptoms, with an eruption resembling that of roseola, with the absence of both desquamation and furfuraceous exfoliation.

Some speak of sequelæ—like those after scarlatina—most however say that recoveries were immediate and perfect; some mention conditions indicative of its local manifestations on the entire alimentary canal, as well as respiratory organs, in the one a part of the cases attended with constipation; others with an annoying diarrhœa, and the latter catarrhal symptoms, etc. The disease has been confined almost exclusively to children. In regard to treatment, there is nothing of interest in consequence of the benign character of the disease.

Our information from the central part of the State is similar to that from the northern portion, if we except the greater prevalence during the winter and spring of pneumonia and rheumatism, and in most diseases of the very general conditions resulting from the presence of malaria; all speak of the great changes, however, in that particular, that are gradually resulting from improved drainage of lands, aside from the peculiarities of the seasons.

We also gather the information, that in the southern third of the State, there has been, through the autumn, winter, and spring, a more than usual prevalence of diseases, having very strikingly the imprint of malarial poisoning. In some localities, pneumonia has prevailed very generally, indeed, as an epidemic, and in a very severe form, with many fatal results. Physicians speak of the marked existence of a typho-malarial element in the cases; they tell us of their unshaken confidence in the merits of mercurials, in many cases, if judiciously used, but chiefly of the value of the generous use of quinine and stimulants. They do not hesitate to say that, in some cases, if they were not the slaves to fashion in medicine, they would have resorted to venesection in some cases, from which they believe their patients would have been benefited.

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Dr. Haller, of Vandalia, informs us that all through the winter, he has seen cases of distinct bilious remittent fever; and that an abortive treatment, by the generous use of mercurial cathartics, followed by quinine freely, has been most satisfactory; which, if otherwise managed, would have been protracted and much more serious.

Inflammatory rheumatism, we are satisfied, is becoming much more common all over our State, and its increase is out of proportion to the increase of population, and not satisfactorily explained by climatic changes alone.

On motion, the paper was received for discussion.

Dr. Steele.—I think it is a very good paper; I am very much pleased with it. I shall not discuss it, but there is one thing certain with reference to bleeding: gentlemen may rest assured that, with a man of Dr. Cook's physical construction, if he had a severe pain in the side and commenced to throw up blood—his tongue furred—the first thing I would do would be to take ont a lancet—a little rusty, perhaps—and take, probably, a pint of blood. In the next place I would give him a dose of calomel, fill him up with opium and quinine, and put a thundering big blister on his side. [Laughter.] I would not give him opium in greater than grain doses; would get him into a sweat, and, with bleeding, calomel, quinine, and opium, have him as happy as a man could be. [Laughter.] It strikes me he would be a good subject for the lancet. In vertigo I would bleed him—not because Dr. Gross said so, but because he needs it. I know this from experience, you know. I know just what to do.

Dr. Cook.—Dr. Steele is just one of those men we want to hear from.

Dr. Worrell.—Dr. Steele having made my speech, I have little else to say. But I simply want to say that every member of the Society has been very much pleased and entertained by this report on the subject of returning to the old treatment of inflammatory diseases, especially pneumonia and pleurisy. The Doctor has referred to that standard writer, Dr. Gross, who on account of the bold stand he took the other day at Louisville, in the treatment of pneumonia and kindred diseases, received a magnificent present of a team of black horses. I think, brethren of the medical profession, that for many years we have been very much at sea with regard to the propriety of the employment of remedies heretofore regarded as potential in the diseases under consideration.

In Bloomington, if called to a case of sthenic pneumonia in a vigorous person, if you should take out your lancet and draw blood, and had occasion, for any reason, to call in some other member of the profession, that member would sit by, and, after solemnly examining the patient, would remark, perhaps, in the patient's hearing, "You need a little toning up, a little stimulation; you are weak; you are a little feeble. This disease, having invaded your system, has paralyzed its energy,

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its resources, its vital powers: you must have a tonic." And all the time he talks about a tonic he means quinine, or quinine and strychnine combined. And so there has been a feeling of restlessness and undetermination on the part of a great many members of the profession, who have not known what to do in the treatment of that class of diseases for a great many years. But I think we are returning to the old doctrines; and I am sure that when we come back to it, and employ the lancet, the number of homœopaths in our country will be diminished instead of increased. We have been driving people into homœopathy by the adoption of a treatment at variance with the true theories and doctrines in regard to the pathology of inflammatory diseases. Dr. Gross, who came out boldly before the medical world and declared that we had strayed from the doctrines of the fathers, stated the truth; and the first patient I have with the pneumonia, when I go back home, I shall be sure to make acquainted with the lancet.

The President.—If any of you have any black horses to dispose of they belong to Dr. Worrell. [Laughter.]

Dr. Steele.—I recommend that Dr. Worrell should hold on, and not take too much blood. [Applause.]

Dr. Birney.—I was delighted with the report of Dr. Cook—more particularly with that part of the report which referred to these eruptive diseases. For something like two or three years I have met with several cases of the diseases of that nature, which I have been somewhat at a loss to know just where to place. Some of my neighboring practitioners have made quite a reputation in the treatment of the disease; they say it is scarlet fever, or scarlatina. I would say the cases have resembled a very mild form of scarlet fever, presenting a sort of subdued rash, of a bright, scarlet color. It presents, perhaps, about the appearance that you will see during the first two or three hours—the time at which the rash first begins to make its appearance. I am sure a physician, not accustomed to the cases, if he should call at this time, would call it scarlet fever, and would say to the friends, "To-morrow you will find the rash well developed." The disease generally runs its course in three days. The difficulties attending the disease are in the throat, accompanied with this subdued rash. These cases are not at all severe in nature, or difficult of treatment—I think they would usually get well without any remedy whatever. I am glad the matter has been referred to, from the fact that there is a considerable controversy with physicians as to where it shall be placed. I am sure it is not roseola nor scarlatina, and I am equally sure it is not measles. The peculiar characteristic of this disease is entirely different from that which we find in those diseases.

With respect to the report on pneumonia, I am also exceedingly well-pleased with the manner of the report on this disease. We have had a very large majority of cases, in our place, of this disease, and they have been unusually severe. I think a majority of them have been what we call double pneumonia. I have treated, since the first of January, some 42 cases of pneumonia, and I have lost, of that number, one case, and the treatment which I have adopted has been the same that I have followed since I have been practising medicine. I use antimony, veratrum viride, aconite, opium, and quinine, and I would use the lancet if it

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were not for the fact that there is such an undue pressure upon the medical profession against its use. I have resolved to take the responsibility upon myself from this time forward, and where cases are presented, indicating the use of the lancet, I shall not hesitate to use it.

The President.—This report is but partially presented. Another member of the Committee should have time to present his report, and then the whole field may be discussed at once. Shall it be in order that the remainder of the report of the Committee on Practical Medicine be heard now?

There being no objection, Dr. Hamill read his paper on the Treatment of Rheumatism with Phytolacca, etc., premising by saying:—

I am afraid the complimentary remarks made by the Chairman of the Committee have prepared you for a disappointment. If I should happen, however, to get upon the track of my illustrious preceptor, Dr. Gross, in regard to the old remedies, I have a good precedent. I claim your indulgence while I present, in as short a time as possible, the remarks I have to make. The report is as follows:

CONTRIBUTION TO THE REPORT OF THE COMMITTEE ON THEORY AND PRACTICE.

By R. C. HAMILL, M.D., of Chicago.

PHYTOLACCA DECANDRA AND GUAIACI RESINI IN THE TREATMENT OF SUBACUTE AND CHRONIC FORMS OF RHEUMATISM AND IN TONSILLITIS.

My object, in the following paper, is to bring before you two medicinal agents, and their availableness in the treatment of disease. The first, to which I now call your attention, formerly held a place in the U. S. Dispensatory, but has been omitted in the last edition; and several authorities make no mention of it in their works on Materia Medica and Therapeutics. I claim for it no virtues of a medicinal character, other than such as may be suggested by a consideration of the results obtained in the cases submitted. It is popularly known as poke, garget, and scoke, and in the books as "phytolacca decandra." In as few words as possible, I will endeavor to present its

HISTORY, PROPERTIES, AND USES.

Its generic character is cal. o. petals 5, calcyne, berry superior, 10 celled, 10 seeded. Begins to flower in the month of

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July, and its fruit ripens in the latter part of autumn. It is indigenous, with a large, perennial root, five or six inches in diameter, fleshy, white, fibrous, and brittle, covered with a thin, brownish cuticle; the stem is annual, and grows to the height of six or eight feet. It is known in all parts of the United States, and grows along the borders of forests, in the fence corners of careless farmers, and in clearings and uncultivated fields. It is found in the north of Africa, probably not indigenous, and is cultivated in the south of Europe. The ashes of the dried stem and leaves, according to Braconnet, yield not less than 42 per cent. of caustic alkali. The alkali is supposed to exist in the plant as a neutral salt, in combination with a vegetable acid, resembling, strongly, malic acid.

The root should be gathered in the month of November, washed, cut into thin slices, and carefully dried. It is without odor, with a saccharine taste, at first, but followed with acridity. "The active matter is imparted to boiling water and alcohol. From the analysis of Mr. Edward Donelly, the root appears to contain tannic acid, starch, gum, resin, sugar, fixed oil, and lignin, besides various inorganic principles."—*Amer. Jour. of Pharmacy, No. 15.*

With the tincture of guaiacum and milk it produces a bright cerulean blue, just as colchicum milk does when rubbed with guaiacum.

The leaves, berries, and roots each contain medical properties, and are relatively active in the order I have mentioned them.

MEDICAL PROPERTIES AND USES.

It is emetic, purgative, and narcotic. King, in his Dispensatory, claims for it, in addition, alterative and antiherpetic properties, and recommends it in nervous headache, in scrofulous, syphilitic, rheumatic, and cutaneous diseases; and of value in the treatment of chronic mucous affections of the trachea and larynx, and in diphtheria. In over doses, it is poisonous, producing violent emesis, purging, prostration, and narcotism. Dr. Young, of Mississippi, in the *American Practitioner, June, 1874,* reports the poisoning of three children,

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who ate of the root, and partook of a hearty dinner, a-half hour afterwards. One hour after dinner, they were seized with violent vomiting and purging. He saw them five hours after they had eaten the root. "The purging had ceased, but the vomiting continued at intervals of 20 or 30 minutes. The pulse was rapid and very feeble, inspiration short, with sighing. When aroused from their narcotism, complained of intense epigastric pain, great thirst, and chilliness." Under the use of the warm bath, sinapisms, and small doses of brandy, frequently administered, they recovered. The vomiting did not cease until the next day, at 6 o'clock, and the vertigo and epigastric pain continued for a day longer.

As an emetic, it is slow and violent, and, like colchicum, often turns down and purges. As a narcotic, it produces drowsiness, vertigo, and dimnness of vision, to about the same degree as the mycrotys racemosa, but, so far as my observation extends, does not produce headache.

There is no officinal tincture in the U. S. Dispensatory, or Pharmacopœa; but the druggists keep a preparation of convenient strength, and which has been adopted by the American Pharmaceutical Society, namely, three ounces of the root to one pint of dilute alcohol.

The dose is from 20 drops to 1 drachm.

It has had a reputation, beyond the memory of this generation, in domestic practice, as a remedy in the treatment of rheumatism and in cancer. In France, about the beginning of this century, it formed a principal ingredient in a popular patent nostrum, known as "Balsam Tranquillant." Geiger, an old German pharmacologist, in his "Hand-book of Pharmacy, Stuttgardt, 1826," says that it was an exotic, cultivated in the gardens on account of its beauty; and that the expressed juice of the full-grown leaves was used as a remedy in cancer; and that it had a reputation in the treatment of rheumatism. I have used it in chronic and subacute forms of rheumatism and neuralgias, alone. My attention was first called to it in the month of September, 1840, under the following circumstances:

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CASE I.—*September 20th, 1840.*—A sturdy farmer, aged 35, suffering with an attack of acute rheumatism, came under my care. Under treatment, the acute symptoms, in the course of a fortnight, yielded, but he was still on my hands with a subacute form of the disease, that kept him from his plough. Eventually, his faith in his medical adviser began to waver. Then, as now, unreasonable men—not to speak of women—would begin to entertain doubts of a physician's skill, if he did not effect a cure as soon, as in their judgment, he should. They might admit that you were "*first-rate on agur, but maybe you didn't know so much about rheumatiz.*" The upshot of the matter was, that a consultation was requested, and Dr. Maxwell, a highly intelligent and skilful physician, of forty years' experience in the frontiers of the west, was called to my aid. After examining the case, he said: "During a long and laborious practice in this wild country, I have often been in just such a dilemma as you now are. Having exhausted the knowledge I had gathered from the books, and at my wit's end, I have adopted the suggestion of some old lady, and my patient recovered under its use. I take pleasure in handing over to you, in this case, a remedy that was given to me early in my medical life by an old Indian hunter, namely: "A handful of poke root in a pint bottle, fill it up with whiskey and give him a teaspoonful three times a day." The poke root was found a few yards from the door, and whiskey was always in the house, in those days. I left my patient with the pint bottle of whiskey and a vulgar mess of roots. The Old Doctor comforted me by saying: "He will be up town next Saturday." Before Saturday, he rode six miles on horseback, to my office, to consult me about a "swimmin' in his head," that had troubled him for a day or two past. The rheumatic pains had entirely left him, and he had nothing to complain of but the vertigo, produced by the tincture, which was growing stronger every day, and some stiffness of his joints. I advised a less dose of the medicine, and the cure was complete. If he is still living in the western prairies, to which he emigrated, I question if he could be

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convinced that any thing, in the whole range of medicines, would cure an attack of rheumatism as quickly as poke root.

I had occasion, during the remaining years of my practice in that place, to treat many cases of subacute rheumatism, and acknowledge my indebtedness to this remedy for a success that rarely rewarded any other treatment, that, for some reason, I may have been influenced to adopt. The notes of such cases were destroyed by fire with my dwelling in 1857, in this city.

During the first few years of my practice in the city of Chicago, I had no occasion to use it. In the year 1858, however, a severe case of sciatica, that had resisted treatment by several of my fellow-practitioners, came under my care, which I treated, successfully, with poke root and guaiacum.

The second article to which I alluded, in the introduction of this paper, is guaiaci resina, which has, since the days of Dewees, fallen somewhat into obscurity, rarely entering into the armamentary of the practitioner of this day. The history, properties, and uses of this drug are to be found in the U. S. Dispensatory, and all standard works on materia medica and therapeutics, and need not be introduced here. I proceed to place before you the case of sciatica above mentioned, and the clinical history of other cases treated by these two drugs in combination.

CASE 2.—In the month of February, 1858, James B——, a Scotchman, aged 40, a blacksmith of dissipated habits, presented himself at my office for treatment. He had been suffering with sciatica for nearly a year, and, to use his own phraseology, "niver a fesishen in the whole cetty had ge'en him a hep'worth's relief:" if he did not get some help he would have to go to the poor-house. I gave the poor man all the consolation I could, and put him on the following mixture:

℞.—Tr. Phytolacca, Tr. Guaiacum, āā ℥ij.

One teaspoonful in milk three times a day after meals, and a fourth portion at bedtime. In one week from that time he was at his anvil again. He took a second bottle of the mixture, and was entirely relieved. Twelve years afterward, I

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treated him for acute rheumatism, following which was an attack of his old enemy, sciatica, which yielded readily to the poke and guaiacum mixture in drachm doses, three times a day. He had never suffered from syphilis—but on two or three occasions, before his first attack of sciatica, and had had severe attacks of gonorrhœa.

CASE 3.—*Jan'y 25, 1865.*—Mr. G., a grocer of this city, applied to me for relief from a subacute chronic rheumatism. It was accompanied by no marked constitutional disturbance, and rarely unfitted him for ordinary business duties. He had been afflicted with it for several years, and on two or three occasions, for a few days, had been confined to his house on account of the severity of the pain, which was principally in the right shoulder, in the walls of the chest, and in the lumbar region. Occasionally, he had severe twinges of pain along the course of the sciatic nerve, and, during the last year, the dorsum of his hands, on two or three occasions, had been swollen and painful. His tongue was slightly coated, urine scanty and high colored. I ordered 5 grains of blue mass at bedtime, to be washed down with 30 grains of acet. potash, in a-half glass of water, the potash to be repeated once in six hours. I saw him the next day at noon, his pill had operated, and there was an increased secretion of urine: discontinued the potash and put him on teaspoonful doses of the mixture: Tr. phytolacca, tr. guaiacum, equal parts, three times a day, in milk, after meals. There was decided relief by the third day, and, at the end of a week he discontinued the dose at noon, and for a fortnight longer continued its use, when he reported himself well.

Three years afterward, he sent the following case to me, expressing the hope that I would be as successful as with him:

Dec. 28th, 1868.—Mr. Van S., a young married man, aged 28, of good habits, a clerk in a wholesale dry goods house of this city, came under my care. For the last three or four years, he had had, two or three times a year, an attack of rheumatism, each fit leaving him with more and more evidence of a life-interest in its pains and penalties. The pre-

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sent attack was the most violent that had befallen him. He was confined to his room for two weeks before the acute symptoms gave place to those of a milder or subacute character. January 12th, following, I put him upon drachm doses of the phytolacca and guaiacum, three times a day. He continued its use, improving daily, for a fortnight, when he resumed his business, feeling better than at any period for more than a year. He had, remaining, some stiffness of the joints, and I advised the continued use of the medicine, one drachm, night and morning, for an indefinite period, contingent upon the relief obtained. He took it for a week or two, and feeling no necessity for its use, laid it aside. His recovery was complete, and he has had no symptom of it since. I met his wife March 13, 1875, who informed me that they were residing in Iowa now, and that he has had no rheumatism since the attack above narrated.

CASE 4.—Mr. W., a coachman, aged 30, applied for treatment April 8, 1871. His knees, ancles, and wrists were swollen and painful, unable to straighten himself on account of pain in his back. For five years past, when exposed in damp weather he had been liable to these rheumatic attacks. He escaped them sometimes for a period as long as three months. About two years prior to his first attack of rheumatism, he had syphilis, from which, his physician told him, he made a very good recovery. Several times, during the last two or three years, he had experienced severe pain in his shin bone, for which he had taken iodide of potassium, and been relieved. His pulse was 85, and hard, urine small in quantity and very red; his bowels constipated. Ordered, Tinct. phytolacca, and tinct. guaiacum, equal parts; one drachm three times a day, and between the doses a dessert spoonful of the following solution: ℞.—Acet. Potass., ʒvj. Mint Water, ℥jv, with a half drachm of bicarb. soda, in a small glass of water, and to take 10 grains blue mass at bedtime. He took up the solution and 4 ounces of the mixture, and was relieved. He had a slight attack the following winter, from which he recovered in a few days, under the use of the mixture alone.

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CASE 5.—I will close this class of cases, with the clinical history of the last one that has fallen under my observation, and which to myself befell.

March 9th, 1875.—Whilst warm and perspiring, I was exposed to a current of cold air, for a few minutes. Without experiencing a chill, or any other constitutional disturbance, within the space of an hour following, I began to feel pain in the lumbar region, which grew worse rapidly. The pain was confined to the right side, running down through the sciatic notch, and in the line of the sciatic nerve, almost to the knee. I never enjoyed better health, and was unconscious of any bodily infirmity, up to the invasion of the pain. Having at hand a vial of the fluid extract of black cohosh, I thought it a good occasion to try its effects. I had frequently prescribed it in intercostal pains, and with decided benefit, and its claims as a valuable remedy in rheumatism had been presented by numerous authorities. At 6 p.m., two hours after the first twinge of pain was felt, I took 30 drops, and at 10 o'clock took 20 drops more, had the painful region well rubbed with alcohol, and spent a tolerably comfortable night, suffering no pain when perfectly still. I should have mentioned that my pulse was not above its normal condition.

10th.—Pain very severe when seated, found it very difficult, almost impossible, to assume the perpendicular without aid. Took 30 drops of the cohosh once in six hours, and ℈j. of acet. potash, and a-half drachm of bicarb. soda in a glass of water, three times during the day.

11th.—I awoke with headache—no relief—attributing my headache to the cohosh; reduced the dose to 20 drops, and continued the potash and soda. Took a teaspoonful comp. licorice powder at bedtime.

On the morning of the 12th, my headache was gone—my bowels freely moved by the powder. No appreciable relief, but no worse, and I determined to give it one more day's trial.

13th.—No better, and I abandoned the cohosh. Drachm doses of the tinctures of phytolacca and guaiacum, in equal quantities, were substituted and taken three times a day in

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about an ounce of cream, that being a more pleasant vehicle than the milk. Appetite good, and there was no evidence of any lesion, other than the sciatica.

14th.—No material relief. The potash and soda had been omitted since the 12th. At 10 o'clock a.m., two hours after my breakfast, my pulse was 69 beats per minute, and perfectly regular. I then took one drachm of the mixture, and with my watch before me, noted its effect upon the heart's action, until 1 p.m., as follows:

10 o'clock	a.m.,	pulse	69,	soft and regular.
10:10 "	"	"	68,	sense of fulness in the head.
10:20 "	"	"	68,	increased volume.
10:30 "	"	"	66,	" "
10:40 "	"	"	64,	firmer.
11 "	"	"	62,	a drowsy feeling.
12 "	m.,	"	62,	less firmer.
12:30 "	p.m.,	"	61,	" "
1 "	"	"	60,	" "

One hour after dinner, I took a second portion in the same way, and the result was as follows:

3 o'clock	p.m.,	pulse	68,	soft and full.
3:15 "	"	"	67,	" "
3:30 "	"	"	66,	full and firm.
4 "	"	"	62,	" "
4:30 "	"	"	60,	" "
5:00 "	"	"	61,	less firm.
6:15 "	"	"	65,	soft.

I took a third dose after tea, and for the first time felt an appreciable remission of the pain.

15th.—Improvement quite marked, could walk with very little inconvenience from the pain. The effort to assume an erect position, however, was attended with considerable suffering. I made a hearty breakfast, and drank a much stronger cup of coffee than was my custom, and before I left the table, took the mixture—noting as follows:

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8:30 o'clock a.m.,				pulse 70, full.
9	"	"	"	75, full and firm.
9:30	"	"	"	75, " "
10	"	"	"	70, "
10:30	"	"	"	66, full and soft.
11:30	"	"	"	60, " "

I was unable to make any further note of the heart's action. I attributed the increased action of the heart to the cup of strong coffee. I took the medicine before I left the table, in this instance; but on the two former occasions, one and two hours after my meal.

It is worthy of observation, that at half-past 9 the pulse was 75 to the minute, at half-past 10, 66, and an hour afterwards it had fallen to 60, being a reduction of 15 pulsations in the space of two hours. I took two portions on the 16th, 17th, and 18th, and one on the 19th, when I discontinued its use. A slight soreness, alone, remained on pressure, perceptible along the course of the sciatic nerve to the popliteal space.

The following phenomena were observable during the time I was taking the medicine:

1st.—A sense of fulness and warmth in the head, which gradually, in about a-half hour, extended to the extremities, producing a feeling of pulsation.

2d.—Succeeding this was a considerable degree of lassitude and disposition to sleep.

3d.—Some vertigo, or rather a diminished power of co-ordinating voluntary movements. That is to say, there was a feeling of uncertainty, when the foot was lifted up, as to whether it would be put down in the place designed, unless under the direction of the eye.

4th.—An increased flow of urine, limpid, with a bare tinge of orange, and accompanied with considerable odor.

The following cases of dysmenorrhœa and migraine have been treated with the same mixture, under the belief that the pathology was essentially the same.

CASE I.—Miss N., a bright, intelligent girl of 18, had been suffering with dysmenorrhœa for a length of time. For the

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last two or three periods, the uterine pain would be very severe for the first day, after which her head would be seized with the most intense pain, throbbing, as if it would burst, frightening her almost to death, lest she should "lose her senses," as she expressed herself.

The pain in the uterus commenced with the first flux of blood, which was normal in appearance, and continued for about four days.

The first day, she had uterine pain, the second and third days, pain in the head, and during the remainder of the time just enough discomfort in the uterus to enable her to realize the locality of the organ.

I was called to see her first, February 12, 1874, on the second day of a menstrual period. I found her weeping and in a frenzy, amounting almost to insanity. Ordered brom. potassium, grs. xxx, to be repeated once an hour until relieved. She took three portions and fell asleep. On awaking, after a couple of hours sleep, she complained of a little pain in the back only, and so passed the residue of her time.

Six days before the next menstrual period, I put her upon the mixture, phytolacca and guaiacum, one drachm three times a day, in milk, after meals, and to be continued through the menstrual period. March 12th, menstruated; slight pain in the uterus for a few hours during the first day, but no pain in the head, and she passed through it with less suffering than at any time for nearly a year. The same course was repeated at the next month, when she menstruated without a pain; and for the next six months, remained in perfect freedom from pain. I learned subsequently, that she had a return of the dysmenorrhœa, and that she resorted to the same treatment, and was relieved as before.

CASE 2.—*April 20th, 1874.*—Miss —. put herself under my care, for treatment, aged 38. Had not menstruated for fifteen years without pain, first in the uterus, followed the second day by pain in the head. The pathological manifestations were almost identical with the former case. There was no leucorrhœa in either case, nor had there ever been any—they

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informed me. Pain in the uterus first, ceasing there, attacks the head; a condition pathognomonic of both cases. I put her upon the same treatment for ten days, including the menstrual period, and for the remainder of the month she took cod liver oil as freely as her stomach would permit. The treatment was carried out for two months, but from a want of care in taking the phytolacca and guaiacum, according to directions, some gastric trouble ensued, and she was obliged to discontinue its use. The result of the treatment was so marked, that a short time since she came to me, with the remark: That nothing had ever given her such relief; and she wished to be put upon the same treatment, if I thought proper. I prescribed, and she is now following up the course directed, with a sanguine hope of entire relief.

CASE 3.—Miss —., aged 30, a brunette, of delicate organization and neuralgic diathesis, has suffered dysmenorrhœa for five or six years, in the same manner as the two above detailed; no leucorrhœa, nor tenderness of the cervix uteri. The quantity of blood lost at her periods was small but normal. The pain in the uterus usually preceded the flux; a few hours afterward her head would begin to ache, generally on one side first, for 12 or 15 hours, then would pass to the other side of the head, and subside in the course of 48 hours. In her case, the migraine frequently attacks her midway between the menstrual periods, and continues for the same period—48 hours. She has been under treatment for six months; is very materially benefited, and has every prospect of ultimate recovery. She takes one dessert spoonful of cod liver oil three times a day, and for five days before, during her period, and five days after, she takes 40 drops of the following mixture, in a wineglass of milk, three times a day, after meals:

℞.—Tr. Phytolacca, - - - ℥ij.
Tr. Guaiacum, - - - ℥j.—Mix.

The preceding cases—six of subacute rheumatism, and three of neuralgic dysmenorrhœa, are selected, from a number

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of similar cases that have come under my observation, for the purpose of exhibiting the therapeutic uses of phytolacca decandra, alone, and in combination with guaiacum in the treatment of diseases, having a subacute, rheumatic, or neuralgic character.

Some of our best authorities express a degree of scepticism in relation to the existence of that pathological state of the uterus styled by Dewees, Ashwell, and others, neuralgic dysmenorrhœa. I am strongly convinced that the uterus is subject to a form of dysmenorrhœa that is not caused by a congested or inflamed state of the organ, and which requires the presence, or approach of the periodical flux, and the hyperæsthesia generally attendant to tune, as it were, the sentient cords, and awake them into agony. Believing that the remedies prescribed were eminently indicated in the treatment of such cases, I ordered them, and with the results detailed:

In the case of Mr. Van S. I was deterred from administering the mixture earlier in the treatment, by an exacerbation of fever that occurred every afternoon, and which only yielded partially to full doses of quinine. Under similar circumstances now, I would not hesitate to give it several days earlier. The observation in my own case was, that instead of stimulating the action of the heart to quicker movement, it either acted as an arterial sedative, in the manner of digitalis, or it increased the volume of the arterial circulation, without in any other way materially affecting or controlling its functions. In his case, 24 hours after he took the first dose, there was a very marked diminution of the pain, and a final remission of the fever. It had never occurred to me, to observe the sedative effects of the phytolacca, until I used it in my own case, and then it was in combination with an active stimulant, according to Stillé, Pereira, Dunglison, and other authors, contraindicted in phlogistic forms of disease, and inadmissable where plethora exists. I have not made any experiments with the phytolacca alone, with the view of learning whether it has any especial virtues as an arterial

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sedative, or whether the results in my own case were fortuitous, or dependent on idiosyncrasy, or on any cause of a fallacious character that might have been unobserved.

The following case of acute tonsillitis, with superinduced or concurrent acute rheumatism, will be of interest in connection with the subject:

Minnie Fitzg., aged 6 years, was taken with a chill on the morning of March 20th, 1875, followed by an exacerbation of fever. I saw her late in the evening, when the following phenomena were observed: Rigidity of the muscles of the neck, and pain on motion, tonsils swollen and red, tongue slightly covered with a white coating, bowels constipated, pulse 100 per minute. I ordered a-half ounce of castor oil, to move the bowels, and a-half drop of tr. aconite root, once an hour during fever.

21st.—Found her without fever, pulse 75, was told that she began to perspire about 2 o'clock a.m., from which time she rested well until morning. The oil had operated, tonsils more swollen, and the rigidity of the muscles of the neck no less. Ordered the following mixture, one teaspoonful to be given every two hours:

℞.—Chlorate Potash,	- - -	ʒss.
Tr. Guaiacum,	- - - -	ʒij.
Tr. Phytolacca,	- - -	ʒj.
Mucil. Acacia,	- - q. s.	
Honey,	- - - - q. s.	
Cinnamon Water,	- q. s.	℥iij.

And if there should be an accession of fever, one drop of tincture aconite root, to be given half way between the doses.

22d.—Did not rest so well during the night, feverish, pulse 95. The aconite had been given during the night, an exacerbation of fever occurring at 6 p.m. The mixture was omitted, the mother giving as a reason, her fears, that for so sick a child such strong medicine was dangerous. Pharynx inflamed and glazed with a transparent, bluish mucus. The tonsils larger, especially the right one, the gland behind the

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ankles of the lower jaw swollen and painful, neck rigid, the dorsum of each hand and each instep puffed and painful, no redness. Ordered the mixture to be resumed, and given once in two hours, alternating with the tr. aconite. I saw her again in the evening—less fever, pulse 85, throat looked better, less redness, and the follicular mucous presented a less diphtheritic appearance—treatment continued.

23d.—Rested better, some fever for the greater part of the night. Left tonsil reduced in size, right tonsil unchanged—no improvement in the condition of hands or feet. Treatment continued, with the addition of five grains of acet. potash with each dose of the aconite.

24th.—Right tonsil no less. The left and the pharynx nearly normal in appearance. Cervical glands less swollen, but little, if any, change in the other conditions of the case. Treatment continued, once in three hours.

25th.—Rested well. The right tonsil discharged some pus during the night, and was much reduced in size. The swollen limbs less painful, and better every way. Pulse 80, and soft.

26th.—Had a good night, perspired freely, the swelling in hands and feet nearly gone, no fever, pulse 75. Discontinued the potash and aconite. The mixture to be continued every four hours.

27th.—Better. Treatment continued.

28th.—Discontinue my visits; ordering the mixture to be given three times a day, on the 29th and 30th.

In the above case the grade of inflammatory action was not high, yet of sufficient intensity to justify the diagnosis. The continuous use of small doses of aconite, no doubt, held it in check. The failure to arrest the inflammation in the right tonsil was chargeable to the mother's negligence, in not administering the mixture during the night of the 22d. The medicine was given through every stage of the disease, and without in the least degree increasing the febrile action, contrariwise the pulse, during its use, fell from 95 per minute, on the 22d, to 75 on the 26th. The aconite, no doubt, aided mainly in producing the result, but it was by no means the sole fac-

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tor; the pulse, in that case, would have been characterized by less volume. Aconite lowers the vitality of the heart, and in that way retards its action. In case of the child, there was a slowing of arterial motion, and, at the same time, there was volume, softness, and apparent ease of motion.

Having called your attention to the therapeutic effects of phytolacca alone, and in combination with guaiacum in chronic rheumatism and neuralgia, I desire, before closing the paper, to still farther claim your indulgence whilst I narrate the clinical history of a few cases, illustrating the value of guaiacum in the treatment of tonsillitis and inflammatory affections of the fauces and pharynx.

CASE I.—A German woman, from the west division of this city, brought her child to me, April 1st, 1871, to be treated for enlarged tonsils. He was a plump, little fellow, three years old, with an anxious, asthmatic expression of countenance. The mother gave a meagre history of some illness—probably scarlatina—that befell him, about a year previously, following which this enlargement of the tonsils. According to her statement, she had consulted many doctors, and given the child much medicine, but for no good. They continued to grow, until now they had risen behind the *velum palati*, pushing it forward, and approximating each other, until a fissure, scarcely wider than a line, separated them. The fauces appear to be full. His position, during sleep, was prone upon his face, elbows, and knees, and when asleep, his breathing was stertorous and loud. The bodies of the tonsils were rugose and sulcated, and of a lighter color than that portion of the apices within sight, and had a firm, solid feeling. The physicians consulted had all expressed the opinion that there was no remedy but the knife; and I informed her that I fully agreed with them. She was so averse to the operation however, that she preferred to run the risk of his dying rather than have him cut. I had so frequently derived benefit from guaiacum, in the more acute forms of tonsillitis, that I determined to try it in this case, telling the mother not to look for or expect immediate results, and that, to assure

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any success, the medicine must be given faithfully. I had a subdued hope, that there was an alterative power in the combined properties of guaiacum and chlorate of potash, that might, in some way, relieve the congestion and resolve the indurated structure. Accordingly, I prescribed as follows: One teaspoonful three times a day,

℞.—Chlor. Potash,	- - -		ʒj.
Tr. Guaiacum, Tr. Cinchona,		āā	ʒiv.
Mucil. Acacia,	- -	q. s.	
Honey,	- -	q. s.	
Water,	- - -	q. s.	℥viij.

She left, promising to let me know, in three weeks, the state of the child, or bring him back to let me see and judge of the propriety of continuing the treatment. But I never saw the poor woman again; and, I supposed that, finding no relief for the child, from the medicine, she had sought aid elsewhere. But, fortunately, about eight months afterwards, I stepped into a drug-store, where the father of the child was having the prescription renewed. The druggist pointed me out to the man, as the author of the prescription, and he made himself known. His wife had suddenly died, about one month after she left my office, and he did not feel that there was any necessity, on his part, to hunt me up. His child was well; and he was satisfied. He gave me the following statement:

The medicine was given faithfully, according to my direction. When the mother died he was so much better, that to suit his convenience, he gave the medicine only night and morning. "The little fellow" he said, "was so well as ever, and his neck, inside, was as smooth as anybody's." He had now come to have the prescription renewed. Contemplating a removal from the city, he wished to take a bottle of it with him, so that, in the event of a return, he might be prepared to meet it. Subsequently, I had this statement confirmed by a lady from the neighborhood, who knew all the facts.

CASE 2.—Mr. P., a banker, living in a village 80 miles

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south of this city, came to consult me July 3d, 1874, in relation to his throat, which for several months had given him no little trouble. He had exhausted the domestic remedies of his household, but found no relief. He was a man of good physique and constitution, aged 35, and of abstemious habits. On looking into his throat the trouble was at once apparent: Both tonsils were enlarged and inflamed; the *velum palati* fringed with a dark-red border, ¼ of an inch in width; the pharynx, sulcated, presented a granulated appearance, and this granulated condition characterized the fauces, as well; the inflammation extended in the direction of the œsophagus, beyond the reach of vision with the natural eye. He had been obliged to give up singing, even in church, and ordinary conversation was carried on with difficulty. I put him at once upon the following mixture:

℞.—Chlorate Potash,	- - -	ʒij.
Tr. Guaiacum,	- - - -	
Tr. Cinchona,	- - -	āā ʒvj.
Mucil. Acacia,	- - -	q. s.
Honey,	- - - -	q. s.
Water,	- - - -	q. s. ℥viij. Mix.

One dessert spoonful to be taken three times a day. I saw him a month afterwards, and he was very much better. Advised the continuance of the prescription, which he did, during a trip, by the way of the lakes, eastward. On his return, he called to say that he was entirely relieved, and on looking into his throat I could discover no evidence of disease, whatever, and up to this time he has remained entirely well.

CASE 3.—Mrs. K., the wife of a merchant in a neighboring town of this State, consulted me, August 6th, 1874, in relation to her throat, which closely resembled, in all particulars, the last case above detailed. She had been suffering with it for the last two years, and having lost a sister with phthisis recently, she felt great anxiety, lest this might lead to the same result. During the last few weeks, she had suffered

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with pain in the left side, below the breast, and was inclined to cough, especially in the mornings. She was of a lymphatic temperament, inclined to corpulence, about 30 years old, married several years, had never been pregnant, menstruation scant and painful. Her pulse was 80 per minute, and regular, respirations, 20. Percussion and auscultation revealed nothing but a slight bronchitis in the left lung. The pain under the mamma was intercostal. I put her on the treatment by guaiacum and potash chlor. In consideration of a zymotic tendency, and of a disposition on the part of the small gland about the neck to enlarge, I ordered, in addition, the following mixture, one teaspoonful three times a day, after meals:

℞.—Sulpho-Carbolate of Iron, - - ʒij.
Simple Syrup, - - - - - ℥j.
Water, - - - - - - q. s. ℥viij. Mix.

Aug. 17th.—She informs me by letter that she is much better, and wishes to know if the prescriptions should be renewed. I ordered their renewal.

Sept. 17th.—Called at my office to say that she was entirely well. The granulated and bluish-red appearance of the tonsils and throat had given place to a normal state and condition of the parts, and the enlarged superficial glands had retired to their natural obscurity. I learned, a few days since, from a relative of hers, that she continues to enjoy good health up to the present time.

CASE 4.—About the 1st of November, 1874, I was consulted by the Rev. Mr. L., of Lake Forest, Ill., for that form of pharingitis peculiar to clergymen. The tonsils were enlarged, and the fauces and pharynx were inflamed, dark-red, rugose, and granulated. He was much distressed at the prospect of having to leave his pulpit, and entertained fears that he might be unfitted, entirely, for public speaking. He had a cough that added to his apprehensions greatly. His chest was large, respirations, 18, and pulse, 70 per minute. I examined his lungs, and assured him there was no organic

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lesion there. The trouble with him was confined to the throat, entirely. I ordered him the mixture of chlorate-potash and guaiacum, in the same proportions as in case No. 2. He took it as directed, and three weeks afterwards, I heard him preach a 40 minute discourse, and on meeting him, as he came down from the pulpit, he said: "I am greatly obliged to you. I have scarcely a vestage of my sore throat left, and am glad to have an opportunity to ask you if I shall continue the medicine?" I advised its continuance, and he sent me word to-day, April 7th, 1875, that he was entirely well. That for 15 years past he had not washed his face in cold water without its provoking a fit of coughing, and that he has been entirely relieved of all cough and irritation of the throat.

The four cases given above, are selected from a large number of similar character, the enumeration of which would make this, already long paper, burdensome. I think "Mr. Joseph Bell, of Barrhead," has not overstated the matter, when he says that "The timely administration of guaiacum powdered, will, in 99 cases out of 100, arrest an attack of tonsillitis." But instead of his half drachm doses of the powdered resin in mucilage of acasia, I prefer the tincture, with a small portion of chlorate potash and the tincture of cinchona, phytolacca, or some other adjunct, that the peculiar character of the individual case may appear to require, all made into an emulsion, and in as pleasant a form as possible.

I find it a valuable remedy in the treatment of scarlatina and diphtheria, when a relaxed condition of the bowels does not contraindicate its early administration. I am confident that it mitigates generally, and in a large proportion of cases, prevents the occurrence of the anginose feature of the disease altogether.

I will probably be asked, Why attribute all the therapeutic action to the guaiacum? What credit is due to the chlor. potass., cinchona, or other adjuncts? The questions are pertinent, but none the less easily answered. Guaiacum is the principal factor. It is alterative, and, according to the ob-

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servation of learned men in the profession, emmenagogue; diuretic under certain conditions, and diaphoretic under certain other circumstances. It is recommended in the standard works on Materia Medica and Therapeutics, as valuable in the treatment of secondary syphilis, venerial rheumatism, and in the cutaneous eruptions of scrofulous subjects. But of the chlorate of potash, our knowledge of its effects on the human organism is *nil.* Isambert has been able to detect it in the saliva 5 minutes after its administration, and in the urine in 15 minutes. It remains in the circulation through a period of from 15 to 48 hours. The maximum of its presence is from 1 to 2 hours. It is very insoluble, and large quantities cannot speedily be introduced into the circulation; but owing to its high diffusion power, it passes with readiness into the blood, in limited quantities. It has been detected in almost every secretion of the system, and preserves its individuality through every avenue and outlet of the body. The quantity administered with each dose, is rarely more than 5 grains, whilst the range in practice is from a scruple to a drachm. I have successfully treated cases of tonsillitis with guaiacum, using sugar and powdered acacia, to cover the pungency, before the mixture was suggested to me, but the results were neither so speedy or certain. I am sure that the amount of potash contained in each dose of the mixture, if given alone, would prove totally inefficient.

I have a speculative opinion, or theory if you please, concerning the therapeutic workings of the mixture, to this effect: The chlorate of potash, by virtue of its power to promote an increased flow of saliva, invites greater quantities of the guaiacum to the suffering structures that constitute the walls of the throat and fauces. The cinchona, also by an analagous process, comes to the aid of the guaiacum. Like other bitters, it acts as an irritant to the mucous membrane, inducing increased secretion, in this way coöperating with the potash in carrying to the seat of the disease increased quantities of the prime factor in the formula.

Results are usually of easy observation, but prudence dic-

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tates moderation, when we attempt to assign reasons for them. The chemistry of physical life is so complex, that theories, involving its character or operations, and which cannot be subjected to a scientific test, should be advanced modestly, and adopted, only after careful observation. Someone has said that "medicines are like men," in all the multitudes of earth, no two alike. So in all the laboratory of nature and of art, there are produced no two medicinal agents that give identical results. The imperfection of human judgment, excludes the idea of our ever arriving at a perfection of knowledge, either of the methods by which many toxic causes impair or destroy physical integrity, or of the innumerable shades of difference in therapeutic agents we are to employ to counteract destructive tendencies, or restore enfeebled functions of organism. The day of speculative theorizing has passed, and we have entered upon an era of facts, which demands that theories, no matter how plausible, must be based upon chemical and experimental observation. The student of medicine must accquire the wisdom that will prepare him for the responsible duties of a physician, not alone from the didactic teachings of the amphitheatre and lecture-room. Important as they are, they but prepare him for comprehending and utilizing the facts that are to be found at the bedside, in the routine of his professional life.

On motion, the report was received.

Dr. Herriott inquired if Dr. Hamill ever used garget.

Dr. Hamill replied that he had used it in one case, but felt unwilling to use it generally when he had colchicum.

Dr. Wright.—I do not wish to say anything in regard to the last paper, but wish to make a few suggestions concerning the previous one. A number of those who have already spoken, seem to be disposed to follow the fathers, in relation to the free use of the lancet; and the gentlemen recommended depletion, not only in inflammatory diseases, but in all diseases where there is an exhilaration of the circulation. Incidentally, the use of veratrum viride was introduced into the discussion, and the gentleman who read the paper on Practical Medicine remarked that he did not regard veratrum viride as equal to aconite in the treatment of inflammatory diseases. I wish simply to say this: that, so far as my observation is concerned, it seems to me that, in the use of veratrum viride, all the objects of the

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lancet are obtained, and the cases are rare that require the use of the lancet, as in days of old. It is not to be denied that, in cases of acute pneumonia, and particularly of pneumonia attended with pleurisy, marked relief is afforded by the free use of the lancet; but if the same object can be attained by the use of a comparatively harmless remedy, in a very short period of time, it seems to me the use of the lancet should be extremely rare. I believe that the reason veratrum viride has not come into more general use, is from this cause: that the profession generally, throughout the country, have failed to appreciate the fact that, in order to get the full therapeutic power from veratrum, they must push it to its full sedative effect. I say, from personal experience, that, if the remedy is pushed until the patient is entirely under the influence of veratrum, in from four to eight hours, all the beneficial effects that can be expected from the use of the lancet can be realized from veratrum; and I cannot understand why, if that is the case, we should return to the indiscriminate use of the lancet. If there were a morbid influence circulating in the blood, producing pneumonia, pleurisy, or inflammatory disease, then there might be some reason why we should let out a portion of the blood; but if the object is to control the force of the circulation until the organ can disgorge itself, and we may accomplish this object by the exhibition of the remedy, I cannot see why the theory should be advocated that we should return to the practice of the fathers, and bleed for all kinds of disease. I have great respect for Dr. Gross, and I cannot believe that, when he made the remarks he did, before the American Medical Association, with regard to the use of the lancet, he intended to recommend its frequent use. It is a fact that many forms of inflammatory disease may be relieved, temporarily, by the lancet; but, as I said before, if we can accomplish this result by the use of veratrum, which, I believe, can be done, I can see no sound reason why we should return to bleeding and depletion. An indiscriminate use of the lancet under all circumstances, and by men without any knowledge in relation to the pathological condition of the patient, is to be regretted. And I would not want it to go out that it is the sense of this Society that we should return to the system of depletion in the treatment of disease.

Dr. Steele.—I do not suppose Dr. Gross advocated the indiscriminate use of the lancet. I hope he did not mount the lancet as a hobby, as the gentleman mounts veratrum. I do not want these hobbies rode to death.

Dr. Hay.—The lancers have made a brilliant charge, but I do not think they are entitled to carry off the horses until they shall show a better title than they have shown yet. They seem to be dissatisfied with the present treatment of pneumonia, and desire to return to the old-fashioned method of treatment. Why? Do the mortality reports show that the treatment of pneumonia for the last few years has been less successful—that we have lost more patients than under the old treatment? Do we lose more patients with any disease than we used to? Is not the average length of human life increased all over the civilized world? If we are to resort to frequent or indiscriminate bleeding, it would be well that we adopt some system of transfusion, so that we may not take out blood without providing some means of restoring it, rather better than the slow process of blood-making and nutrition. It is a very serious matter to take out of the body that which is necessary to its vitality, and which can be restored only very slowly. Gentlemen must

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show a better title to their horses than simple dogma, before they can carry them off.

Dr. Edgar, of St. Louis.—I had not thought of engaging in the discussion. I come from the West, you know, and we look Eastward for wisdom. Wise men come from the East. The Empire hails from the East, as well as the Empire State;—we hope it is tending Westward strongly. But we come from the West side of the river to learn, of course. If Dr. Gross's name had not been made free use of, I do not think I would have been tempted to say anything; but, having had the honor to listen to Dr. Gross at Louisville the other day, I must say I think he is not very fully understood. I think the Doctor intended to do a good thing for the profession, even if he sacrificed himself, in some degree, in doing it. In private conversation with him, as well as in listening to his address, I am satisfied that all he intended to do was, to call attention to the fact that blood-letting was one of those arts not entirely to be lost—that we should not be so subservient to fashion, as to let any valuable remedial means be swept away by public sentiment, or permit charlatans to interfere with just and proper remedies. He was advocating a return to the lancet in those cases—not indiscriminate by any means —only in those extreme cases where it was evident the lancet might be of use. And when we consider the amount of blood in the body—from one-twelfth to one-thirteenth of the entire weight of the body—to abstract, under certain circumstances, a small proportion of it, long experience demonstrates is not attended with so much harm as has recently been represented; nor is there a necessity, as has been suggested, that we should put just as much blood back into its place, of a better quality. Dr. Gross holds that there are circumstances in pneumonia, and in other diseases, in which the lancet, firmly used, is the remedy above all others, and the physician should always have it ready for use when these circumstances arrive; he should be sufficiently familiar with its use, to use it when necessary; that the physician in general practice will meet with cases enough to give him sufficient practice to perform this simple operation without any trouble. My friend says veratrum proves effective in six or eight hours, but in cases of violent congestion of the lungs, six or eight hours may determine the case. A few ounces of blood drawn promptly may take off the tension, may help to equalize the circulation, may assist the veratrum in its operation, and accomplish good. We ought not to turn our forces against it, Dr. Gross thinks, so as to abandon it entirely, under any circumstances, in such cases as puerperal fever, and other similar cases; we have become timid in consequence of a sentiment, propagated by quacks rather than by any other instrumentality, until it takes courage now to take a lancet and draw blood, when it is absolutely necessary to save the life of the patient. Dr. Gross intends simply to recommend the use of the lancet in all cases where the judgment of the physician tells him it is the remedy above all other remedies,—that is all I understood Dr. Gross to say, and I felt obliged to him for saying it, though I have seldom met with cases where the use of the lancet was necessary. Those that have been instrumental in creating a prejudice against the profession, are careful to assert and maintain that there are means of controlling these diseases since the introduction of veratrum and aconite; and I confess that I glided naturally from the use of the lancet, which I had been instructed to use; but I believe I have bled some men, whose lives were saved by the use of the lancet. I recol-

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lect distinctly a plethoric gentleman coming to my office in great haste, and, throwing himself into a chair, he said, "Bleed me," and before I could get ready to do it, he lost his consciousness. I tied his arm and bled him, and he came to and recovered his senses entirely, and informed me that the same thing occurred to him on two or three other occasions, and that if he had not been bled he should have died.

But to return to the veratrum: we glided naturally into the use of veratrum; I experimented with it to my entire satisfaction; I have had such control of the circulation as to carry it to 40; I know it is not advisable to do it; I think it is a little safer remedy than aconite; if you give too much to a patient, I think you can resuscitate him better. I know of but one case, on record, of death from the use of veratrum. It occurred in the army; the nurse gave a teaspoonful instead of 8 or 10 drops; 8 or 10 drops was too much. The old dispensatories said 8 to 10 drops. It is too much. We were very slow in learning its use; 3 or 4 drops are enough, every two or three hours; it is safe in that dose—perfectly safe. In this case the patient took a teaspoonful every two or three hours, and vomited once; but the nurse persevered and got him down, and he died. It is one of the most valuable—one of the most manageable of the sedatives that can be used to retard the circulation; it has taken the place of the lancet, which would have been used to this day if we had not substituted such remedies. We have not changed in our practice. The indications for the lancet are as frequent as before, but we have other and better remedies, and the public should be dispossessed, in some way, of their prejudices in this respect, and the profession made to stand right. I think Dr. Gross has assisted in doing that.

Dr. Wright.—I do not wish to be understood as being in favor of discontinuing, entirely, the use of the lancet, as has been suggested. There are contingencies, beyond all possible question, where it must be used—where it is the most speedy agent that can be employed. In such cases I would invariably use the lancet, but I would not use it otherwise. In a case of apoplexy, or congestion of the lungs, or any sudden congestion of any kind, where the lancet is of immediate use, I recommend it, and use it. But what I wish to say is that, in ordinary cases, we can substitute the arterial sedative, veratrum.

The President.—It is the last thing I would desire, to curtail a full discussion of this paper. The experience of these men is just what we are here to receive; but we have used two mortal hours already, that belong to other departments, in this one report. Yet I do not feel that it is my province to direct what you shall do.

A motion to refer the reports to the Publishing Committee prevailed.

The President reminded members that the by-laws required that every paper over twelve pages, foolscap, in length, should be presented in abstract. He did not say it as a criticism on anything that had passed, but as a statement of the rules, de-

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signed to protect the Society against an unnecessary expenditure of time upon any long dissertations.

The Secretary read the names of Dr. S. D. Cogsen and J. W. Dora, recommended for membership. Referred to the Board of Censors. The Secretary also notified the new members that they were entitled to copies of the Constitution and By-Laws of the Society, which they could obtain from him at any time.

Dr. Edwin Powell, Chairman of the Committee on Surgery, then read his report.

[After repeated application to Dr. Powell, for the Report, and considerable delay, the Doctor decided not to furnish it for insertion in the Transactions. For an explanation of the causes which led to this decision, please see his communication, near the close of this volume.]—PUB. COM.

The President.—There are two other subdivisions of the report on Surgery—one by Dr. Herriott, and another by Dr. Peirce, of Lemont.

The report was received, and laid over for further discussion.

The Secretary submitted a report from the Board of Censors, recommending Wm. L. G. Odell, H. Z. Gill, and others, for membership. The report was received and adopted.

The Secretary.—There is an immense amount of work yet to be accomplished and no time to do it. It is perfect folly to think of getting through with it to-night. This evening we are to listen to the address of the President, and we shall have, perhaps, an hour or two to work after that. We have a report sent here by Dr. Niglas, of Peoria—a worthy member of this Society; and we have a report from Dr. H. A. Johnson; a report from the Committee on Nervous Diseases, by Prof. Jewell, of Chicago; we have, also, a report on Small-Pox, by Dr. Grey, of Bloomington; we have the report upon Obstetrics; we have the report of the Nominating Committee, and the election of Delegates to the American Medical Association and the various State Societies. This business cannot be properly done this evening—there is no use for the Society to try to run through this business in this manner.

Dr. Frazier.—Would it not be proper to take the sense of this meeting on the question of continuing the session till to-morrow noon?

The Secretary.—There is no time set for the closing of the session. Last year we worked three days.

The President.—Nothing has embarrassed me more than to cut short the dis-

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cussions this morning, yet I felt it necessary to do so, in order to give, as far as possible, an equal representation to the different departments; but it is not using these men well to come here and endeavor to crowd into two days the entire amount of these reports. If we go on in this way, we shall not have half-a-dozen reports in a few years.

Dr. Frazier.—I move that the unfinished business be taken up at the regular hour to-morrow morning.

On motion of Dr. Peirce, the Association voted to adjourn, to meet for business at 9 o'clock in the evening.

Dr. Prince explained the use of a new instrument for taking up stitches in operations upon the soft palate and extrophy of the bladder, after which the Association adjourned.

Wednesday Afternoon Special Session, for Transfusion.

At two o'clock the Society returned to the Hall, to witness a demonstration of the process of transfusion, by Dr. J. W. Freer, aided by Drs. Walter Hay and E. Powell. Dr. Freer successfully performed the experiment of withdrawing the blood from a dog until it became unconscious and motionless, and then re-injected it, until the dog seemed as strong as before the operation. Nearly all the members witnessed the demonstration with the deepest interest. Dr. Freer explained the manipulation of the instruments, and the philosophy of the operation, as he proceeded.

The members next proceeded, in the street-cars, to visit the State Hospital for the Insane, where they were cordially received by Drs. Gilman and Neal, in the absence of Dr. H. T. Carriel, the Superintendent. They were shown through the buildings, and, while stopping for a short time in the chapel, Dr. Gilman said:—

Ladies and Gentlemen, of the State Medical Society:—We are glad to welcome you to the Hospital for the Insane. Most of you, perhaps, are aware that it is a very difficult matter for so large a body of persons to pass through our wards; we have to pass along in a hurried way; and so large a body has a disturbing effect upon so unstable a population as we have here. But we are glad to meet

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you; we shall always be pleased to see you, and to show you attention, individually, at any time you may come. [Applause.]

Dr. Peirce responded:—

I am very much gratified upon this occasion. I am exceedingly proud, to-day, to be here in this building, erected for the worship of God, and the instruction of these unfortunate people, who, in His wisdom, He has seen fit to punish. I feel an especial pride in being here, because this is my house, this is my organ, [pointing to the musical instrument,] and this is my improvement. I happened to be member of the Legislature, and a member of the Committee on State Institutions, and came here when this place was an old lumber-room; men came into it to do carpenter-work, and it was a rough, hard-looking place. There was no fit place here for religious service. Through some words that I may have said, I influenced the Legislature to be a little more liberal than they had been, and this room is one of the results. And now let me ask you how much, do you think, this improvement cost? under the efficient management of Dr. Carriel, the Superintendent, this has become a model Institution, and these improvements were made for about $2500. All through this building you will see billiard-tables, pianos, flowers—things of taste and culture—designed to attract the attention of these people; if they ever get well, it will be through this way of diverting their attention. These things have been provided by these efficient, thorough, conscientious gentlemen. I take pride in being instrumental, in a feeble way, in causing this state of things. You cannot do a better thing for the country or the race, than to see the member of the Illinois Legislature from your district, and tell him what he can do, without impoverishing this great State, for these unfortunate people. [Applause.]

The scientists tell us they believe in the theory of the survival of the fittest—that weak things will droop and die, and the strong ones flourish. They would not feed the hungry, clothe the naked, or provide for the sick and unfortunate. They would say, "Let them die." But religion teaches us to feed the hungry, to clothe the naked, relieve the distressed, and do good to our fellow-men. I have no regrets for any vote I have given for the liberal provision for the care of the unfortunate, in the several benevolent institutions of this State.

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It is a matter of pride, too, that the Medical Associations of this State have taken the initiative in introducing reforms into these institutions. It was in response to a resolution introduced by Dr. Prince that the Blind Asylum was built. Through the influence of that resolution, provision was made, by the last Legislature, for the erection of a suitable building, for the care of these unfortunate people, and these institutions have been favored by the medical members of the Legislature, while the lawyer and the granger have passed them by.

After returning to the front of the building, the members were grouped together, for Mr. Cadman, the photographer, to take a stereoscopic view, which he succeeded in doing to his entire satisfaction.

The State Institution for the Education of the Blind was next visited. Assembling in the chapel, the members were welcomed by Dr. Phillips, the Superintendent, who said:—

While you are trying to heal the sick, and enable the lame to walk, we are trying to be eyes to the blind, and I trust you will see, this evening, how this is done. Coming, as you do, after school hours, all the sections of the school have been dismissed, except this one. These are the pupils belonging to Prof. Loomis' room —he will give you some specimens of the methods employed, and of the proficiency of the pupils in literary attainments.

Prof. Loomis explained the methods of instruction and the course of study, after which the pupils spelled, read selections from Childe Harold and other poems, and performed some difficult work in algebra and geometry. The exercises were of the deepest interest to all who were present. These exercises were followed by several pieces of music, played by the orchestra of the Institution, under the direction of Professors Wimmerstedt and Nutting.

Wednesday Evening Session.

At eight o'clock a large audience gathered to listen to the address of the President, and to hear the concert.

Dr. Peirce occupied the Chair, and all the ex-Presidents

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of the Society, who were present, were invited to occupy seats upon the platform; these were Drs. J. O. Hamilton, T. F. Worrell, J. M. Steele, F. B. Haller, and David Prince.

The President read the names of the following gentlemen, recommended for membership by the Board of Censors:—

Drs. William H. Winterbotham, Bayless, Pike Co., J. N. Allen, Mount Sterling, Brown Co., G. W. Cox, Clayburn, Adams Co., Robert Briggs, Clayburn, Adams Co., John G. McKinney, Barry, Pike Co., and Robert N. Barger, Hopedale.

The report was adopted, and the members declared elected.

After a flute and piano duett, the President, Dr. J. H. Hollister, delivered his Annual Address, as follows:—

GENTLEMEN OF THE SOCIETY AND
LADIES AND GENTLEMEN OF JACKSONVILLE:

The inspirations of this hour, of this place, and of these surroundings, demand an expression to which I feel myself unequal.

In the presence of these former Presidents, of these honored brothers, and of this cultured audience, I am fully sensible that a readier pen than mine, and a tongue more eloquent, should command this situation. None but the gentle touch of a master hand should wake the cords of your tender memories, and thrill you with the harmonies which this occasion has the power to inspire. It is with no affected diffidence, then, that I assume this responsibility, while such a wealth of memories cluster around this memorial hour.

How rapidly the years that mark the centuries go—speeding on, each freighted with eminent achievements, and as signal failures. Unrest is everywhere; and written upon all our surroundings. From the unknown of yesterday, into the unknown of to-morrow, the purposes of the Infinite One are only apparent, as He unfolds the the Panorama of the Ages.

From the midst of many cares; from painful, anxious watchings; from the bedsides of many sick and suffering ones, you, my brothers, have stolen away to this beautiful resting-place for a day of respite; a day of fraternal greetings; a day of professional intercourse and enjoyment; and, more than in any other year, for a day of pleasing retrospect. Weary and worn with labors which

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none, as you, can appreciate, it is meet that you should thus "turn aside and rest awhile." Along up the rugged pathway of your professional career, patiently you have been toiling on, year by year, till now it is fitting that you enjoy such respite, and this proffered rest. Before you are the misty, clouded lands of the unseen, and thither we shall journey on the morrow. But behind us it is not so. Let it be with restful pleasure, then, that we gather here to-night and recount the wonderful events which mark the twenty-five years, now complete, since the organization of our Society. And the more do I count upon the pleasures of this hour, since I am proud to believe that, as we look back over our professional labors, there remain *no stains* upon our good intents. Failures there were, for we are human; but there were mingled with our deeds no wrong designs. The sacred trusts committed to our keeping have not been even jeopardized. No deeds confront us, which can bar us from the respect and esteem of a confiding, trustful people. After more than twenty years of intimate relationship, I feel assured of what I speak, and I count it no small honor, in this uncertain age, that this, and more, may be claimed for the veterans of our profession, here and now convened. I dare to meet you face to face, and ask you with reference to your professional deeds, Is it well? For I know the prompt response which will come back to me, as with uplifted hands you swear, "It is well!" Such be your record to the end: and such purity of life and purpose shall be a precious heritage, to those who shall come after you.

Upon the dial of the nineteenth century the finger-point was at high noon. Civilization had scarcely yet decreed that this should be her resting-place. The camp-fire of the red man had scarce gone out; the smoke from his wigwam was yet in the West; the print of his foot was yet in the trail. He paused for a moment to behold the skirmish line of the advancing host, and then he went out to return no more. The latent possibilities of this fair State were to slumber no more. Her broad acres were to put on a still more beautiful attire. The budding grain and the blossom of the rose should be a sweetly uttered prayer of blessing upon the hand of culture, till of her increase there should seem no end.

It needed not that the intuitions of men should be inspired to forecast the future. It was to be no slow and uncertain growth of the centuries; but here, in our favored Illinois, a nation was to be

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born in a day. By steam and by thoroughfare its confines were to be brought into close proximity; happy homes and thriving cities were to be everywhere indigenous. Schools should culture our children to the appreciation of their high privileges, and to the doing of their great work; churches, for the worship of the ever-living God, should minister to the necessities of a worshipping people; science and art, and all the varied industries, should here enshrine themselves in living teachers, and in their varied handiwork. It was the initial period for a new order of things; the waiting of the ages was accomplished; the founding of Empire was to have here and now a new, and living, and grand expression.

At this early stage of our development, when the rapid advancement of our material interests were beginning to create a world-wide surprise, then it was, that a band of medical men, profoundly loyal to our profession, and inspired with high hopes as to its future triumphs, assembled in the city of Springfield on the 4th day of June, 1850, and there organized the Illinois State Medical Society. That they were men of eminent ability; that they were actuated by a noble purpose; that they cherished a high standard of medical attainment; that they were governed by the clearest expressions of professional honor and etiquette, is evident from their every act and utterance. That they did their work wisely and well, the records of this quarter of a century plainly attest. That these foundations were laid in truth, and in the interests of suffering humanity, no man has ever questioned. That upon these foundations a grand superstructure may be safely reared, for all time to come, is the more manifest as the years go by. The records of these years need no erasures. Our annual meetings have been occasions not only of pleasure, but of profit. As a deliberative body, its views, its discussions, and its actions have been only singular for the harmony which has prevailed. Never has a personal or a sectional feeling been allowed a place or a hearing. In its membership; in its selection of its officers; in its committees; in its reports; and in all discussions, simple merit has been the standard of representation; and to-day, through the length and breadth of this State, there exists a strength of fraternal feeling which has ripened into many enduring friendships. To-day there is a unison of sympathies in the medical profession of the State which I hardly conceive to be excelled elsewhere, either in our own or in foreign lands. This very extended and pleasing acquaintance and

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fellowship I conceive to be very largely due to the successful workings of our State Medical Society.

Its best interests have always been consulted in determining the locations of its annual meetings. Of its twenty-three annual sessions, two have been held in Springfield; three in Jacksonville; three in Bloomington; five in Chicago; two in Peoria; two in Decatur, and one each in LaSalle, in Vandalia, in Rockford, in Paris, in Rock Island, in Dixon, and in Quincy.

In the dark days of the great conflict, which not only tested the patriotism of our citizens, but the strength of our republican government, so large was the representation of our society upon battle fields, in hospitals, and in every service, to which their country might call, that for two years, our sessions were suspended. Well do I remember the feeble handful that remained at home, and who gathered again in this city of Jacksonville, in 1863, and the message of cheer which they spoke to their comrades in the field. These were their words:

Resolved, That we tender to those of our members serving as medical officers in the army, and now absent in the field, assurances of our kind remembrance, both of their humane labors and their personal sacrifices; that we congratulate them upon their ability to contribute services so valuable to a cause so noble; and that we join with them in earnest desire and personal effort, if need be, for the early restoration of peace, and the integrity of the entire Union.

Well do I remember, too, with what glad hearts we welcomed these brave men home again, "when this cruel war was over;" and if they must die, which I can almost pray they never may, I would have upon their every monument one tablet reserved for this inscription: "*His country's benefactor! He neither lived nor served in vain!* HE WAS AN ARMY SURGEON!" No, my brave brothers, the benisons of the boys in blue were always yours, and shall be, while one remains to repeat the story of your fidelity and your kindnesses.

Of our worthy Presidents, time only permits a passing word. Twice we came for them to Jacksonville; and Prince and McFarland, (with us yet, and whose hospitalities, in common with their friends', we share,) did honor to the presidency. Four times we went to the county of McLean in search of Presidents, and we never went in vain. Of these two, Luce and Worrell, are with us still; and with these we number Davis and Johnson, of Chicago, Goodbrake of Clinton, Steele of Grandview, Haller of Vandalia, C. N. Andrews, then of Rockford, Trowbridge of Decatur, Chambers of Charleston, Ham-

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ilton of Jerseyville, and Albin of Neoga—these, yet in their vigor, are with us still, the fast, firm supporters of this Society; active workers for the advancement of the science of medicine everywhere.

But there is another list whose deeds we honored, but whose remembrance only, we are permitted to cherish. From loved ones at home, from circles of friends, from the tenderest relations with the sick and the dying, they in turn have been summoned away. They shall live in our memories, but to our roll-call they shall answer no more.

Of our first President, William B. Herrick, it may be said, he was a nobleman by nature. To his superior native abilities and manly bearing there was added a culture which lent a charm to his place and to his deeds. He was a noble representative of his profession; but slowly and sadly his erect form and his master intellect wasted away, under the subtle advances of relentless disease; and to-day we would, if we might, cover his grassy mound with wreaths of evergreen and immortelles, in token of our undying remembrance. Around that grave, on the far Atlantic shore, let the soft winds sing their plaintive dirge, and let the flowing tide moan for us a fitting requiem, till winds shall cease and tides forget to ebb and flow!

And Brainard is with us no more. How stunning was the blow! How severe, and how sudden! There fell, that day, one of the Nestors of American surgery. He belonged not to our State, nor to our nation, any more! He had become cosmopolitan. One day he stood in the midst of his pupils, self-poised and self-reliant, one of the ablest and most polished instructors of his age; the very next, his cold form waited the coming of hearse, and the parting tributes of his mourning comrades. He died too suddenly and too soon, for the fulfillment of his life-long intents; and in the fatal fire of October 9, when Chicago disappeared, his valuable contributions, which others might have given to the world, were all swept away. The college of his founding yet remains, and this shall doubtless outlive all lesser monuments, a lasting and perpetual honor to his name.

And what shall I say of Rouse and of Thompson, and of the two Nobles, but that they were true and noble men: men whom we delighted to know; at whose death we each felt that we had sustained a personal loss? In their professional, and in their social lives alike, they were honored, and in their death, sincerely mourned. Long as this Society may exist, many as there may be of able men enrolled in its membership, it will never have a more

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devoted friend, and hardly a more helpful one, than was Dr. H. Noble; and I scarcely know in which he rendered the most signal service; in his long and valuable medical career, or as a war hero, rallying men by regiments to the front, when the Union was imperiled.

Dr. D. W. Young, of Aurora, too, since last we met, has departed this life. A man yet in the midst of his years and usefulness; the President of this Society in 1872; honored with the mayoralty of his own city; a surgeon of much prominence in the army; the contributor of many valuable papers to this Society; one ready and active and able in the services he rendered. The report of the Committee on Necrology ably expressed his worth, and the estimate in which he was held in the profession.

We mourn, too, the loss, since last we met, of the lamented Blaney, — a man so genial, gentle, cultured, and loving. His name was known to scientists throughout the world. It was his fortune, and it will more and more be counted his honor, that with Dr. Brainard he was associated in the organization of Rush Medical College, in the fall of 1843. It was he who wrote the initial article in the first number of the *North-Western Medical Journal.* It was he who rose at Springfield, twenty-five years ago, and offered these resolutions:

Resolved, That we deem it expedient to proceed to the organization of a State Medical Society; and second,

Resolved, That the Convention now resolve itself into a Committee of the Whole, in order to digest a plan for the organization of a State Medical Society.

The unanimous adoption of his resolutions was the initial action which gave us this organization, whose twenty-fifth anniversary we now celebrate. Honored as an army officer, charged with the medical directorship of Fortress Monroe, and finally with the disbursement of more than half a million of dollars to the medical officers of the North-west, Professor Blaney was never called to a position, whether as officer, professor, physician, scientist, or civilian, that he did not fill with signal ability, and to the eminent satisfaction of his friends. The memories of him and of his age, must be forgotten, and the men with whom he mingled must all have passed away, before there may be written above his grave an inscription more significant or suggestive, than the simple name of BLANEY.

But why recount the deeds of Presidents alone, dwelling upon the

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virtues of the living and the dead? There is no favored land, but its wealth and worth is based upon its citizenship. There have been no able generals, but their undying fame was born of as brave and able soldiery. And so it is vain to speak of the honors of this Society, if we forget the membership by whom those honors were conferred. The yearly reports attest how ably and how faithfully the rank and file of our profession have labored to advance the common purpose; and we know that it is to the honest, patient toil of these, more than all things else, that this Society must look for its future signal success.

With no feigned pleasure do we survey the advancement of the medical profession in our State during this quarter of a century. The medical literature of the State has contributed much to this. *The Chicago Medical Journal*, *The Medical Examiner*, the writings of Davis, and Byford, and Prince, and Andrews, and others, have accomplished an important mission. The clinical teaching of our hospitals (developed entirely within this period), have also yielded their munificent contributions; and, more than these, our medical colleges have been steadily raising and advancing the standard of medical education, till it is fully felt and conceded that the means, for as thorough an education, as can be had anywhere, are accessible within our own State. This is the more evident when the faculties of the colleges, consulting their highest interests, have called so many from their alumni to occupy professorships. In the Chicago Medical College, no less than five of its professors are from among its graduates; and the President of Rush is an alumnus of his own school. The fact that the graduates of these schools are so well received, and so generally successful, and that, amid the great competition in professional life, they so prominently represent our profession in the North-west, is ample proof of the breadth and thoroughness of their training.

And yet, I conceive that to-day we stand upon a point of new departure. Much as we may congratulate ourselves upon the advances made during this quarter century, it mnst be apparent to you all that a vastly greater progress is to be made in the twenty-five years to come. The possibilities of the two periods are different, and will permit this. These last may well be termed THE YEARS OF EMERGENCY; the age of improvisation. In the beginnings, on every side, we had at first not even shelters for our heads; no churches; no schools;

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no doctors; no druggists; no skilled artizans of any kind,—we were upon the border-line of civilization. And yet we had the common needs of universal humanity.

It was here, and under these circumstances, that the power of the American people to meet emergencies, and successfully adapt themselves to circumstances, had full expression. Every development was the creature of a present and pressing necessity. The home was a hut, the temporary pledge of a dwelling by and by. The old school-house, rude and rough, was the most democratic institution the world ever saw. In it all classes were gathered for instruction. In it none were high, none low, none rich, none poor. It was the metropolitan church as well. People of all creeds might worship here; and here it was, if anywhere, men had all things common. The facility with which men took up the several trades, to which their hands were scarcely skilled, was little less than marvellous. The man who, when a boy, was perhaps indentured to a doctor or a druggist for even a menial service, became the accredited physician of the place, and clambered into its responsibilities as best he might, and so it came that the title of Dr. lost much of its old-time prestige: for where, into this far West, one truly cultured physician had ventured, there were ten who, needing all the varied elements of the physician, possessed only the single one of self-assurance. As the times improved, and the needs of communities were multiplied, many of our young men, with aspirations for some more honorable, some better place, forsook lucrative and honorable callings, and, with but meagre mental culture, rushed to the doors of our colleges, and with very brief courses of instruction sought at the hands of our faculties diplomas entitling them to all the honors and privileges of Doctors of Medicine. Under the circumstances, perhaps this was the best that could then be done. And to the honor of many of these young men be it said, that they went forward steadily advancing in their professions, till their names would be an honor to any alma mater. But too often it was otherwise; hence, our profession has suffered in public estimate because of so many premature graduations, and because of a steady degeneracy, even from the day of graduation. It need not be a matter of surprise, then, that people are sometimes suspicious of even graduated physicians, to say nothing of the horde of vampires who live upon the stolen confidence and misplaced estimate of suffering humanity. It need not

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be a matter of surprise if these ill-cultured doctors should, in turn, desert the profession in disgust, for callings that pay better.

Gentlemen, I sincerely hope that the day of such imperfect preparation for the medical profession has passed. The means of literary culture are now abundant, and within the reach of all. Fortune has smiled upon so many homes, that men are now abundantly able to give thorough educations to their sons; and I hold that, from this time onward, none others but those who have the foundations well and thoroughly laid, have any business to knock for admission at our colleges, and seek through them an open door to the practice of medicine.

I confess to not a little of painful anxiety as to my duty when, as each year rolls round, the folios of diplomas are laid before me for my signature. I feel that a great and grave responsibility is upon those of us who teach, and those who vouch for the abilities of the men who go forth from us, year by year, to practise the healing art. And I here and now affirm that *I have given my last signature for the graduation of any young man who does not give evidence of a thorough preliminary education.* Laxness in the schools has flooded the country with uncultured men, and their deeds do but come home to plague us. The remedy is in the hands of our physicians, if they will only apply it. You, my brother doctor, owe a duty not merely to the profession, but to every human interest: a duty which requires that you remand to an honest calling (to which he may be well fitted) every young man who seeks to enter your office as a medical student, unless he is possessed not only of good natural abilities, but has also obtained a thorough preliminary education; and when you certify your students to our various colleges, remember with what responsibility you encourage the young men into a profession of such varied and extended requirements.

And I trust the day is at last at hand when the extent and quality of teaching shall determine the rank of our schools, rather than the numbers in attendance, and the facility with which they are graduated. Again and again the members of this Society have given their pronounced expression, demanding a higher standard of medical attainment; and it is the result of this demand which, in a large measure, secures the attainments already made. Among the colleges let there be no rivalries (as I trust there are none to-day), except only in this, as to which shall turn out the best productions. The age of emer-

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gency having passed, I predict that this next twenty-five years shall be designated, by those who come after us, as the *age of achievement.* Chemistry never came with the offering of such ministries to our profession, as she now lays at our feet. The microscope unfolds to us, as from unsealed books, such revelations as no unaided vision could have divined: Clinical instruction, in the wards of the hospitals, is to give us henceforth the living expression of diseases which, at best, were very imperfectly described in the books, and in didactic lectures.

No one can now portray the results which shall accrue from the comparisons of physiological and pathological histology; from the observations of the effects of medicinal agents upon men, and upon the inferior animals; and from the farther exploration of that domain, so dark and yet so full of promise,—the nervous system; and from the services of, yet, undiscovered remedies. Behold the open doors! How grand and serviceable the truths that await our coming and our utilizing! How these mysteries shall tease us out of our lethargy and ignorance, into the attainment of better knowledge and a better service of our race! Such possibilities, it seems to me, await almost no other calling; and the men are already with us, who not only purpose, but who shall accomplish these achievements. Henceforth, after the mastery of the general and essential truths of medicine, men shall set themselves, more and more, to the study of special departments in which they are certain of success in a wonderful degree, such as no man can attain to in the whole broad field. For, as we advance, the work so rapidly expands, and the labors so multiply, that these divisions become self-evident necessities. And while there will be many inseparable bonds which will hold the profession in most intimate relations, it is evident that, during the years to come, the several departments of medical science are to be more accurately defined, and to assume their more marked personality and individuality; and it will be, by critical studies long and patiently continued in these several departments, that signal future successes are to be achieved. Our medical literature will be also an improvement on the past. Cases will be recorded with more fulness and precision. The experiences of men will have more explicit statement. Diseases will be more accurately and differentially described and classified; and to many human ailments, now deemed mortal, there will come a palliation, and perhaps a cure.

Rational medicine, never over-confident, will practice no decep-

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tion. In many a conflict she will be powerless, but still the half of her future triumphs "hath not been told." Not without censure will she be, while those who sit in judgment are unable to discern the line that separates her mission from impossibilities. But the time will come when she will fulfill every reasonable demand, and when she shall no more be blamed for failing to accomplish that which, with man, is impossible.

Medicine is closely allied to theology, in this: that it lays before man the possibility of a high and noble culture of his *triune* being. From its lowest or material side, its promise of rewards is measurable, but only moderate. He who enters the medical profession for the sake of an easy life and freedom from care, has reckoned without several important factors, and will surely be disappointed. He whose mission is money, and who measures success by its accumulation, will be apt to turn aside to more inviting fields. While to every competent and prudent man it will vouchsafe a sure and reasonable support, I think (except in rare instances,) the honest, legitimate practice of medicine will never rank high among the money-making callings. But from an intellectual stand-point, its estimate is different. In its culture, as a science, there are mines of wealth, the present explorations of which can only give assurance of the treasures that lie beyond. There are no studies more profound than those that pertain to this wondrous human form, and the mind, of which, this form is the dwelling-place. Who shall comprehend the power by which an atom of inert matter is vitalized? Who, with all chemistry at command, shall define to us the laws of growth, and of typical formation, and of decay, and of universal death? Who shall tell of the subtle power by which the will compels such absolute odedience; and of the never-ceasing influence of the mind upon the body, both for evil and for good?

The material structure we can study, and comprehend, and admire; but when we come to the vital actvities, we can only behold results, and pause and wonder, and confess our weakness. As by no other pathway we climb far above the realms of ordinary thought, far up to the last limit of intellectual possibility; but there we falter and pause, unable to grasp or comprehend the power and purpose of the Infinite. We here behold the beautiful expressions of wisdom and power, but to the interpretation of the manner by which matter takes on such activities, no language hath yet been given us. There is not a human

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faculty of the brightest intellect but may find scope for its greatest energies, and when at last the inquiring mind wearies and wastes, it must confess that man is a mystery whom only his Maker can interpret. I can comprehend no other line of study in which the material and immaterial world are so blended as in this; and in which the proper estimates of both must enter, as elements, to influence our conclusions, whenever we, in the full sense of the word, engage in the practice of medicine. If men seek a field in which every element of their being may be called into utmost and even delightful exercise, then let them become the students of medicine; for it doth not yet appear what are the achievements that may be made, the triumphs that may be won.

But aside from its materialistic and intellectual relations, there is a yet higher sphere in which medicine may culture men, and develop the noblest faculties of their moral nature. The physician has the power to lay his hand upon the hearts and sympathies of the afflicted, as no other human being can. How sacredly the weal and woe of families are given to his keeping. What unspoken benedictions rest upon him, as by many he seems the cherished saviour of their dearest friends. How the motherhood of this world is committed to his care. How anxiously are all eyes turned to him, if perhaps he shall prove the answer to their prayer, when the gathered family are mute with grief lest the father, who has seemed their all, shall now be taken from them. Oh, how the weeping mother turns to him in that hour of desperate grief when her first-born is called to die! There is then, a prayer for help, which hath no human utterance. There are, then, responsibilities which no human heart can measure. No man has ever stood in these relations, who was worthy of the place, and of such confiding trust, but he longed to command an answer to that prayer; no man has stood there but has felt his own weakness. And just at this point it seems to me, as in no other relation in life, is given the possibility of pointing beyond these griefs and tears unto Him "who took our infirmities, and bore our sicknesses!" Great as is the service of the healing art for the mitigation of suffering and the cure of disease, I believe its *moral* mission has a higher service still.

I believe the ideal physician shall yet be realized. The cheerful recompense for his labors shall fully minister to every bodily want; as a laborer he shall be deemed worthy of his hire; and as to this

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world's goods, he shall be satisfied. I believe that in the realm of intellectual labor and achievement, he is to stand in the forefront of thinkers and reasoners; and I believe that in that mission which points men heavenward, his labors may be measureless for good. Medicine so relates itself to humanity, that in the development of his *material*, his *intellectual* and his *moral* nature, the physician is yet to express *the highest capabilities of a man.*

To you, my brothers, who have so long borne the heat and burden of the day, let me add a parting word of cheer. You are no longer the young men of twenty-five years ago. Your silvering hair tells of the touch of time, but you are yet strong for your unfinished work. Count it no small achievement that in these years you have accomplished so much in your several fields of labor. By your fidelity and skill you have won to yourselves hosts of true and abiding friends. By your means, legitimate medicine has secured a confidence in the hearts of the people. By you the colleges and hospitals have become the training schools for our young men. By you they have had that instruction that shall render every such young man a blessing to his community. By your patient industry, much shall yet be accomplished in divesting medicine of delusions, and giving to the people a rational and judicious system of medical practise. By your past and, I may add, your future labors, the foundations of medical science shall be so securely laid as to abide the tests of time, and command respect not only at home, but in other lands as well.

It matters not if we are not here when another twenty-five years shall have rolled away. The influences of to-day shall have a better expression then, and others shall say better things of you than I would dare to tell you, face to face. An unselfish labor, with such nobility of purpose, shall not have been in vain. There shall abide with an intelligent people a high regard for our profession, and an affection even for its practitioners; and welcome you will be in the places where you dwell, as public benefactors—as welcome as you feel yourselves to be in this beautiful city of Jacksonville.

And now I must turn from you to her citizens, to thank them for these kind expressions of their hospitality. Ladies and gentlemen, we are glad to meet you in your beautiful city. Your schools and colleges so early founded, so ably conducted and so prosperous, tell of a culture which may justly be your pride. Your churches are

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a promise of your high moral culture. Your humane institutions are an honor to the land; and when you won their locations to your city, it was because you were a people worthy of them. The grand expressions of the State's tender care for its unfortunate ones, find here a focal utterance. Your beautiful homes have a language of refinement, and your surroundings an air of comfort which charm us like music, and would beguile us to rest. Jacksonville, city of beauty, of culture, of brotherly kindness! Like a bosom-bouquet, she nestles near the heart of our beautiful State. May her leaves never wither, her flowers never fade!

It remains for us, now, when these pleasant hours are passed, as medical men, to return to our various fields of labor, and address ourselves to our daily duties, with industry, with patience, with fidelity, till, from the failing of our powers, these labors are duties no more. There is much for each of us to do. With more precision we must observe; with more studious care we must collate our facts; with better discipline of mind we must generalize upon those facts, and so attain to our conclusions. Farther into the mysteries of disease we must penetrate; more skillfully must we handle our remedial agents, and with a greater generosity must we give to the press the fruitage of our labors.

To our young men there is given a field of labor better than which, it seems to me, none can desire. You are not restrained by time-honored customs; you are not hampered by useless precedents; you are not compelled to wait for dead men's shoes. Every success of yours will be heartily welcomed by the oldest men of our professions; and we offer you our places and our benedictions so soon as you shall prove yourselves worthy of them. May the next twenty-five years be as inseparably related to the past as you are to those who are twenty-five years your seniors. But, in the next twenty-five years, may your achievements be as much greater as your opportunities shall be better.

Gentlemen, I congratulate you upon the auspicious planting of medical science, and of medical institutions, in Illinois. It has been our high privilege to behold their birth and their growth to this hour. I congratulate you upon the harmony which prevails in the profession throughout our State; upon the unisons of purpose and of labor which have been manifest in all our meetings. I congratulate you for the men of our number who have done so much, as members of

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the American Medical Association, for the elevation of a national standard of medicine; and I as earnestly implore that the noble achievements of the past shall be but the earnest of a brighter future, unsullied and unstained!

The Address was greeted with warm applause several times during its delivery.

Dr. A. McFarland offered the following, which was unanimously adopted:—

Resolved, That we, as citizens of Jacksonville, who have had the pleasure of listening to the eloquent, scholarly, and earnest address of Dr. Hollister, do return our sincere thanks.

Dr. T. F. Worrell moved the following, which was adopted:—

Resolved, That the thanks of all the members, and of all the medical men of the State of Illinois, are due to the distinguished Professor, who has reflected such credit, honor, and immortality upon our profession. [Laughter.]

On motion, the Society rescinded its vote to proceed to business at nine o'clock, and spent the remainder of the evening listening to the music provided by Prof. Sanders, and others, of the Illinois Conservatory of Music. The following is the programme:—

Flute and Piano—Il Tasso—Donizetti. Professor T. D. Nutting and Miss Figueiria.

Piano Solo—La Violet der Carafa—Herz. Miss Annie Tarbell.

Song—Lo! Hear the Gentle Lark—Bishop. Miss Katie Detrick. Flute obligato by Prof. Nutting.

Violin Solo—Carnival de Venice—Paganini. Prof. I. B. Poznanski.

Piano Solo—Vienna Gallop—Miss Helen Billings.

Vocal Solo—Tarantelle—Rossini. Miss Marion M. Phillips.

Overture—Rossini. Violin, Flute, Piano, and Organ. Prof. Poznanski, Prof. Nutting, Miss Tarbell, and Prof. Barlow.

At the conclusion of the concert, Dr. Peirce, of Lemont, said:—

Mr. President—I feel impelled to say that I have been delighted, astonished, overwhelmed, and thoroughly penetrated by the delightful.

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harmonies of this entertainment. Hereafter I am in favor of holding all the sessions of the State Medical Society in Jacksonville, [laughter]; and I think, Mr. President, that we had better meet three or four times a year. [Laughter.] As it is proper that we should give some expression of our appreciation, I offer, in behalf of the Illinois State Medical Society, this resolution:—

Resolved, That we tender our hearty and earnest thanks to Profs. Sanders, Poznanski, Nutting, Barlow, and the ladies that have so ably supported them, for this most delightful entertainment.

The resolution was unanimously adopted, and the Society adjourned until eight o'clock, Thursday morning.

THURSDAY MORNING SESSION.

The President.—Resuming our business at the point we left it yesterday, the order will be the further report from the Committee on Surgery. The Secretary has informed us that he has a lengthy contribution by a member of the Committee, sent as a contribution to the report on Practical Surgery.

Dr. Fitch.—It is a report on Hernia, by Dr. John N. Niglas, of Peoria. I have not read the report—I have had no time; but I think I can read it in about twenty minutes.

Dr. Powell.—There is nothing of special value, or nothing new, in the paper, except that it contains some statistics that may be worthy a place in the volume of Transactions, but the reading of it will possess but little interest.

The President.—Will you receive it?

Dr. Ingals.—I move it be received, and referred to the Committee on Publication. Carried.

SOME REMARKS ON HERNIAS.

By JOHN N. NIGLAS, M.D., Peoria.

Some time during the latter part of the year past, I received a note from a member of one of the committees, requesting a contribution for the report on hernias, which, I must confess, some way or the other, has been mislaid, so that, in spite of all pains I have taken to find it again, I did not succeed. So much, however, I recollect, that its contents demand a communication regarding ruptures, which, by the

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profession, frequently are met with, with people of all ages, and without difference to sex.

Now, to show my willingness, and, on the other hand, to free myself from the suspicion of discourtesy, for having failed forthwith to reply, I take the liberty of presenting to the gentleman who has honored me with his address, and through him to your honorable body, what I wish to say about the object in question, stating that what I have to say is, in part, the fruits of my practice, part of reading on the object, and meditation about the same.

Regarding cases I have seen in practice, I would say that I meet congenital hernias with children from their birth up to a later period, say their second year, both umbilical and seratal ones, with adults, in all periods of life, not only the former two species, but also femural hernias, intestinal prolapsuses through the foramen ovals, and what we usually style abdominal hernias in the median line of the general integument in this region. Of all these cases, which, in civil and military practice, have ever came under my observation, there was but one in which I have found the individual with strangulation of the contents within the hernial sack, and this was the case of a lady far advanced in age, and she was the single one I had need to propose herniatomy. I am sorry to say that neither she herself, or any of her relations, would consent to have the operation performed, in spite that my esteemed friend, Dr. Robert Boal, and myself had communicated to her son, a minister officiating in the community, in what danger his mother's life would be, in a short time, if relief should not be afforded her immediately.

From this, it is evident what erroneous conceptions, in regard to this matter, still are supreme in the minds of the people; for, in spite of the anatomical explanation given to the family, poultices were resorted to, and plasters spread over the hernia, which, in their opinion, was a mere tumor; and it was this very case which refreshed in my recollection what Mr. T. Ravatte, Professor of Operative Surgery in the University of Berlin, well said in his popular work on

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abdominal hernias, when speaking of a radical cure of these, and, what he complained, of the physicians in olden times, that they had no understanding of the pathology of ruptures, may well be applied to the majority of lay people now, and those drug-venders who, now-a-days, sell nostrums for hernias in form of ointments and plasters, promising a radical cure.

In those dark days of antiquity, when empiricism ruled supreme, the Æsculapians classified the hernias with tumors in general, and as tumors were treated then exclusively with salves and plasters, in the composition of which entered the most marvellous substances, from the basilisk's blood to the bear's grease, a hernia presenting the appearance of a tumor had to be greased and covered with a plaster. Happily this time is gone by; the art of healing human ailments is not based now on mere conjectures or preconceived opinions, since anatomy has become the broad foundation of explaining man's condition in health, as well as in his infirmities, since physiology furnishes us knowledge of our organism in its normal state. Pathological conditions are no more explained by mere hypothesis, and consequently treated by a method in harmony with reason.

And now, I proceed to say, that to heal radically a rupture, modern medicine will devise such means only as have foundation in the true nature of this evil, demanded by the anatomical defects or lesions, and the sufferer's constitution in general.

Before I shall proceed to a regular discussion what the means are to radically cure hernias, I first shall give my views what species of hernias will admit of such cure, with some prospect of certainty.

Amongst hernias admitting of a radical cure there are, in my opinion, first to be ranked the congenital hernia, originating through the inguinal canal with children, in whom, after the descent of the testicle, this passage has not been sufficiently closed, so that the omentum or part of the ileum will be prevented to descend, either into this channel or the scrotum itself, and next to this, the prolapse of intestines through the umbilical ring.

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It is my experience, and I am sure my friends in the profession will have observed it also, that the greatest number of inguinal and umbilical ruptures, with infants and children, passed the period of lactation and during the time of dentition, are healing comparatively rapidly, the reason being found in the endeavor of nature itself to mend deficiencies of primary formation, whereby the walls forming the inguinal canal are brought in contact with each other, so much as the spermatic chord or round ligament of the womb will need without suffering undue pressure for their descent. A similar process is pursued by nature's own doings in closing and contracting the umbilical ring. Now, it is evident that if this attempt in the infant's or child's organism be interfered with, by a real descent of a part of the intestinal tube, that this abnormal aperture will continue to be open, and increase, in progress of time, whilst the reperative faculties of the parts concerned are losing force and energy in due proportion.

This attempt of nature, in repairing the deficiency with infants and children, is, in my opinion, a call on the profession to apply as early as possible a truss to support and help her efforts in closing up the port, and holding back the intestine, whilst we learn the cause why, when at a latter period of life, hernia may be produced from either hereditary predisposition, or causes external, there is little or no hope for a radical cure.

From these premises, in which I wished to be as brief as possible, I draw now the conclusion, that to effect a radical cure in cases of hernia, as aforesaid, there are only three means, which, with reason, we may resort to, of which the first and most important one is the truss, so constructed that it will positively fit, and close up the hernial vial so perfectly that their walls, under its assistance, may contract and become attached to each other; the second, such means as are sure to strengthen those muscles which enter into the formation of her hernial parts, and third or last, that we ward off all accidental causes for coughs or other symptoms weakening the organism of our patients. That salves and plasters,

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the effects of which can be only demulcent, discuticut or resolving, are left out of consideration entirely; I need not to say why.

Great and promising as our prognosis is for success in congenital hernias with the young ones, so doubtful, I consider it in the acquired species of this kind of ailments at a latter period, when the physical development has come to its acme, and if, in such a case, now and then, by chance, we shall happen to perform a cure, I am positive that none but those three means I just referred to will deserve credit thereof.

I well know that the question now-a-day is as justly asked, whether the profession could not effect, by surgical means, by way of an operation, to close an opening on the human body, whereby the prolapsus of intestines from the abdominal cavity could effectually and permanently be prevented, as we successfully have been operating for hair-lip and split-palate, as it has been asked some centuries ago, particularly from the time when physicians had learned the true nature of hernia, and well knew, to distinguish between tumor and tumor in general, and particularly in that region of the body where the anatomical condition is favorable to let either part of the omentum or part of the illeum and omentum pass out of the abdominal cavity with the distended peritonæum in front, as its common envelope, and raising the skin in top, like a hill, where no elevation should exist if all be in order.

From written tradition, I know that our predecessors on the field of practical medicine, years ago, have tried to answer this question, with their hands armed with the scalpel and cautery; yet, as far as Dr. Kavoth, through his communication, informs me, with the most doubtful success, if any. So unsuccessful, he says, were the attempts made in this direction, that Dr. Dieffenbach, renowned for his skill and happy daring hand and practitioner of surgery, used to say: "If there were any glory to be fished on this field, I should have been long ago earnestly engaged thereon." And, I may say,

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that in due remembrance to the words of this illustrious surgeon, as he himself, and with him the most conscientious and expert operating surgeons, have gone to work with instruments in few cases only, and after the strictest scrutiny of all moments and circumstances, the case may have offered for consideration. The opinion itself, pronounced by this sage of his past period of life, is contained in the proposition: A person, willing to submit to operation for radical cure of its hernia, is sure to jeopard its life, to get rid of an evil without danger for its existence, if taking reasonable care of itself, whilst, on the contrary, any person suffering from strangulation is doomed to die, if refusing to be helped with the knife, the only probable means to save life.

Knowing the dangerous condition of the people suffering from any kind of this evil, the profession in England, particularly in the city of London, considered it its duty, in harmony with the principles of general hygiene, to afford protection to the needy, first, by popular instruction regarding the origin and means of knowing when sprung into existence, and then assisted by the opulence and means of the humanitarians, formed what now is styled the London Truss Society, furnishing the poor applicant the very means of effecting a radical cure, if applying in time, as the old adage of the classics says, "*principus absta sero medicina paratur*," if at a latter period to ward off thereby such perils as may threaten his life, at any time, unexpectedly.

Professor Ravoth took it upon himself to exhibit, in statistical tablets, what good, and to what extent, the profession, by these means, has done in the period of years from 1860 to 1867, and thus furnished us a means to learn how frequently such evils are met with in all age, and with no difference to sex. According to his report, there were provided 42,554 persons with trusses, making it evident that nearly five per cent. of London's inmates are afflicted with ruptures.

And to give some evidence how the ages of the people are figuring, and what species with one or the other sex are predominant, I am free to copy his two tablets for the information of the profession here:

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Class.	Age.	Male.	Female	Total.	Approximative proportion of frequency with female and male persons.
1	0–1 year.	4818	252	5070	1:19–20
2	1–5 "	1568	253	1821	1:6
3	6–10 "	991	195	1186	1:5
4	11–15 "	1266	176	1442	1:7
5	16–20 "	3020	285	3305	1:10–11
6	21–25 "	3451	356	3807	1:9
7	26–30 "	3767	392	4159	1:9–10
8	31–35 "	3289	295	3584	1:11
9	36–40 "	3198	312	3510	1:10
10	41–45 "	2480	193	2673	1:12
11	46–50 "	2338	124	2462	1:19
12	51–55 "	1655	91	1746	1:18
13	56–60 "	1271	52	1323	1:24
14	61–65 "	801	51	852	1:16
15	66–70 "	441	36	477	1:12
16	71–85 "	269	19	288	1:14
	Total,	34623	3082	37705	

A close examination of this table will surely justify the following conclusions:

1. Inguinal Herniæ are met with in each and all ages
2. They most prevail after birth at an early period.
3. They are more rare in the age of maturity.
4. Thence they increase again, and grow
5. Less numerous after the climax of life is passed.
6. They are most prevailing with men, on account of their anatomical structure.

Class.	Age.	Male.	Female	Total.	Approximative proportion of frequency with female and male persons.
1	0–1 year.	0	0	0	equal.
2	1–5 "	2	5	7	1:2
3	6–10 "	19	15	34	equal, nearly.
4	11–15 "	24	36	60	1:1–5
5	16–20 "	71	171	242	1:2–5
6	21–25 "	125	340	465	1:2
7	26–30 "	136	501	637	1:4
8	31–35 "	132	468	600	1:3–5
9	36–40 "	172	494	666	1:3
10	41–45 "	139	390	529	1:3
11	46–50 "	154	282	436	1:2.5–2
12	51–55 "	95	199	294	1:2
13	56–60 "	75	144	219	1:2
14	61–65 "	45	85	131	1:2
15	66–70 "	36	37	73	equal.
16	71–85 "	16	23	39	equal.

Comparing this second table with the first one, it is at once evident that femural herniæ are proportionally oftener observed in females, the ratio being nearly nine females to one male individuals; then we next observe the importance of the anatomy of the region in which they originate; hence there is no instance of a congenital one. Such herniæ commence to develop from the sixteenth year only, up to which period the cases with male and female nearly balance each other. The increase from this period with females is owing

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to gestation and parturation, whilst in the period of involution they become less frequent again.

Umbilical herniæ, and such as manifest in the median line, are more seldom met; in persons having arrived at the age of maturity; they particularly own their origin to pregnancy, and with men to adipose accumulation in this region. Besides these kinds of ruptures, the hernia foraminis ovalis, coming forth one inch below the port hole of the inguinal one, is met and observed somewhat more frequently, compared with intestinal dislocations in other splanchnic cavities.

Now, before I close, I desire to say but few words, in what way we may help the truss in healing radically a hernia. The first means I consider to be of the utmost importance, particularly with infants, is to strengthen their abdominal muscles, in the way that the mother or nurse make them rise from their back in the bed, stretching forth one or two fingers of each hand, which the infant is to take hold of, thus bringing itself from the horizontal position to a sitting attitude; this exercise to be performed several times a day.

Children more advanced ought, whilst being protected by their truss, make daily physical exercise by turning, swimming and skating, particularly girls, being predisposed to such ailments on account of their parents in hereditary way.

N.B.—To help this physical exercise much more care is to be taken for the constitution in general.

And, gentlemen, permit me, at the end of these remarks, to ask you, not to consider it unworthy to our profession, to speak now and then a word to the public, in a popular way, regarding their welfare, to avoid ailments which, in a number of cases, we know from experience that it is far easier to ward them off than to effect a radical cure, if once established.

The President.—I am aware there are many members who must leave us at 10.30 o'clock. It is necessary that we transact some important matters of business this morning. The next thing in order will be a report by Dr. Peirce. It is an untimely hour, so far as the Doctor is concerned.

Dr. Peirce.—This is a revival of a subject pretty well ventilated, two years ago, at Bloomington, and about which a good deal has been said; but I wish to present the subject again in two or three aspects.

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Dr. Peirce then read his report, as follows:—

REPORT ON SHORTENING IN FRACTURES, WITH THE LEGAL RELATIONS OF THE SUBJECT.

By WM. P. PEIRCE, M.D., of Lemont.

I propose to offer a few thoughts upon the subject of fractures, more especially those of the long bones, and to consider not only the professional, but the legal, relations of the surgeon to his patients. It will be conceded, at once, that these questions are of the first importance to both parties. The sufferer, when he calls professional aid to repair his injured limb, is importunate to know what may be expected as the outcome of his calamity; and the surgeon should know, not only how, in the best manner, to treat the injury, but also, what he may safely and truthfully promise his patient, and the extent of his personal liability in the premises.

I shall, therefore, first allude to the treatment of fractures of the shafts of the long bones, especially those of the femur and tibia and fibula. Secondly, to the prognosis of these cases; and, lastly, to the law of civil malpractice, as it bears upon the resulting deformities.

Although, during the last few years, more than usual attention has been bestowed upon these fractures, still a great diversity of opinion obtains among gentlemen eminent in the profession, and we are perhaps as far to day from a uniform rule of treatment as ever.

Preliminary to the treatment, however, and of the first importance, is a careful diagnosis. The surgeon cannot be too attentive to all the diagnostic points of a case, or take too much pains in developing all the signs which will throw light upon the exact nature of the injury. Here, fortunately, there is less confusion than exists in relation to treatment. The diagnostic signs are in the main far more positive, and little difference of opinion can exist with regard to their value. It is true they are not all present in every case, nor are they infallible; yet there is usually sufficient uniformity and cer-

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tainty to enable the practitioner, who keeps the diagnostic rules of fractures and dislocations well in mind, and who sees the case before the diagnosis is seriously embarrassed by the swelling of the parts, to reach a reasonably confident conclusion. The uniformity and relative value of the several signs are so well agreed upon by surgical writers that it is needless to recount them in this connection, or allude to them, except to impress this thought, that because there is greater certainty and positiveness in this regard, therefore is there a greater responsibility resting upon the surgeon to make a careful and accurate diagnosis. Indeed, he will find much less to excuse him from the results of a faulty diagnosis than from those of an unfortunate plan of treatment.

The practitioner should not be hasty in drawing his conclusions. It is true he will see many causes which he will be able to diagnose before laying hands upon the injured part; but, in many other cases, and this is especially true of injuries about the joints, he will find it necessary to go systematically through the whole range of signs appertaining to the several injuries and accidents to which the region is liable, and look for each sign separately; resorting, when necessary, to anæsthesia.

And, in this connection, I would emphasize the importance of strict honesty on the part of the surgeon, especially with himself. Let him exercise the utmost candor, and neither attempt to deceive others or allow himself to be self-deceived. He must not stand in fear of the criticism of the bystanders, who will be likely to regard his caution and delay as evidence of his unwisdom; nor must he shrink from inflicting pain when necessary, or be biased by his patient's opinion of the case, or prejudiced for or against the opinion of the wise and voluble friend who can always be found at such places, and knows all about the case, and has told everybody what is the matter before the surgeon arrived; but he must go through all the diagnostic signs systematically, faithfully, and stoically, and fully convince himself of the exact nature of the injury before proceeding to the treatment.

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If, from the nature of the injury, extent of swelling, or any other cause, he is in doubt about the diagnosis, he should send for, and await the arrival of, such professional aid as may be required to clear up the difficult points in the case, and effect a solution of the problem, in which both shall feel the assurance of certainty. Especially should the surgeon avoid assuming to know more than he really does know about a case. The law does not require extraordinary wisdom or skill, it does not demand the highest degree of either; but it is intolerant of pretence and charlatanry, and is particularly severe on boastful and deceptive promises. In these matters honesty is preëminently the best policy. Be especially careful not to assume too much wisdom, or make too many promises. Let the diagnosis be clear and the prognosis guarded.

In this paper, which is designed more particularly to present for consideration some debatable points in the treatment of certain fractures, it is clearly out of place to go into the details of the treatment required for the various fractures of each bone, as it would occupy too much of your time, and make a paper far too voluminous for publication in our Transactions. I will, therefore, simply allude to the indications of treatment, and review some of the new suggestions in the way of appliances.

There was formerly some discussion about the proper time after the injury to adjust the fracture and apply the dressings. Because an inflammatory stage of eight or ten days succeeds the injury, attended with great pain, soreness, and swelling, it was once held that the limb should be allowed to remain uncovered, resting upon a pillow, and be soaked with cooling lotions or healing liniments until the swelling disappeared; and then, that the broken fragments of bone should be placed in position and secured. This plan has now lost its advocates; and there is but one answer to the question, "When shall the bones be restored to their proper position?" and that is, "As soon after the injury as practicable." The indications of treatment, about which I think there can be little dispute, are, to restore, as soon and as accurately as possible, the broken frag-

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ments to their normal positions, and to retain them exactly in place until union is completed. Whether it is possible, in a majority of cases, to accomplish all this remains to be seen. The reduction of the displaced fragments, in fractures of the long bones, can usually be effected by extension and counter-extension, with or without anæsthesia, by the aid of competent assistants; but the plans for retaining them in position are as numerous as are surgical writers. Their number is almost countless, and a description of the various appliances which are or have been recommended to secure this result would fill a volume. Our uniform theory or idea, however, has heretofore actuated all the inventors of fracture-beds, splints, double-inclined planes, weights and pulleys, and suspending machinery used and advocated in these injuries, to wit, a belief in the necessity of a quiet, steady, and uniform extension and counter-extension, sufficient to counteract and oppose the contraction of the muscles, and retain the limb of the required length. But now comes a proposition to lay aside all these old ideas as obselete.

At the session of the American Medical Association, held at Detroit, in June, 1874, Prof. L. A. Sayer, of New York, made a report on Fractures, which called out a good deal of discussion, and in which he presented, with the greatest confidence and boldness, views so at variance with those which had been regarded as settled and time-honored, as to produce a profound impression. The propositions of Prof. Sayer, are: 1st. That it is unnecessary to confine the patient in bed with a fracture, even of the femur.

2d. That extension and counter-extension, after the femur is once adjusted, are not only useless but injurious.

3d. That the limb can be restored as perfect as before the injury, of the full length and, if anything, a little longer.

That I may not do injustice to the author of these propositions, I use his own language, *(Transactions, American Medical Association, 1874, p. 303)*: "Fractures of the long bones require that extension and counter-extension, under the influence of chloroform, or other anæsthetic, if necessary,

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should be made in a proper direction, until perfect accuracy of adjustment is obtained, and, after this, retension and fixation in this normal condition until consolidation.

"By accuracy of adjustment I mean the perfectly normal condition of the bone as to the length and position. When the extension and counter-extension have been properly made, the muscles, and other tissues surrounding the bones, will necessarily and positively force the fractured extremities into their normal position, as above described, unless some foreign body, as a shred of muscle or connective tissue, has got between the fragments. All extension beyond this point of perfect accuracy of adjustment is unnecessary and injurious; for, being abnormal, it excites reflex contractions. Hence the objection to continued extension which keeps up reflex irritation, or else by paralyzing the muscles allows of elongation, and, consequently, frequently results in non-union.

"All extension, short of that necessary to this perfect adjustment, is insufficient, leaving the extremities of the bone as sources of irritation, and causing pain and muscular contractions, as well as leaving the vessels in a looped position, causing the œdema heretofore described. The nerves, also, being in an abnormal position, are additional sources of irritation.

"When the bone (whatever bone it may be) is thus placed and retained in its normal position, the patient is free from pain, and all the functions of the limb are as well performed, in cases of simple fracture, and the recovery, in a healthy constitution, will be as perfect and complete, with normal length, without deformity, as if no fracture had occurred. If the limb has been extended to its normal length, the bones must necessarily be accurately adjusted by the surrounding tissues. If this position, therefore, be positively maintained, shortening cannot by any means take place, but rather a lengthening, to the extent of the plastic material effused between the bones that joins the fractured extremities."

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The plan in brief then is this, to dispense with all *continuous* extension and counter-extension, as useless and injurious; but, having once reduced the fracture, the extremities of the bones are to be retained in position by immovable dressings, so firmly applied that "absolute accuracy of adjustment" shall be maintained "until consolidation."

The report is accompanied by a tabulated statement of 31 cases treated in the Bellevue Hospital, with the results of treatment. This table records 26 cases of simple fracture of the femur, of which the average duration of treatment was 36¼ days, average shortening about ½-inch; 5 legs were not shortened at all; 1 was too long! and the others shortened from ⅛ inch to 1¼ inches; 5 cases of compound and complicated fractures of the femur, with an average duration of treatment of 53 $\frac{4}{5}$ days; average shortening, $\frac{1}{5}$ of an inch. Also, 28 cures of fracture of both tibia and fibula; average duration of treatment, 54 $\frac{1}{5}$ days, and with the following reported results: all right, 21; slight deformity, 4; not firm, 1; no record of result, 2.

The method of treatment was uniform in all these cases. The limb was dressed as soon as possible after the injury. The patient was placed upon a table, ether was administered, extension made by assistants—the pelvis resting against a pin firmly fixed in the table, and this extension kept up until the limb attained the full length, when, as the author of the report asserts, "if the extension has been made in the right direction, the fragments of the fractured bone must be in their normal position." The limb is then wrapped in a piece of flannel blanket, cut to fit accurately from pelvis to ankle (in the case of fracture of the femur), three or four strips of coarse cotton fabric, saturated with plaster of Paris, are laid longitudinally upon this, and upon these some narrow strips of wire cloth, and all surrounded by an ordinary roller bandage, saturated with plaster, and moistened before being unrolled upon the limb. The extension is kept up until the plaster hardens, which may be facilitated, if desired, by the addition of a little salt to the water

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with which the plaster is moistened. The next day, and subsequently during the treatment, the patient is allowed to go about upon crutches at pleasure. The dressing is allowed to remain, if it will, undisturbed throughout the treatment. In some of the reported cases the bandages were renewed once, and in a few, twice, during the treatment, by reason of their becoming too loose, but usually the original appliances were not disturbed until union was complete. These dressings are boldly applied immediately after the injury, and before the occurrence of the inflammatory tumefaction peculiar to these cases; and it is claimed for them, that their application thus early will prevent swelling. These statements, if they can be fully relied upon, ought to revolutionize the treatment of fractures. There is, however, reason to fear that they are "rose-colored," and that, like many other novelties in medical and surgical practice, these appliances are not destined, in the hands of others, to fulfil the promise of their too sanguine advocate. In the August number of the *New York Medical Journal*, only two months after Prof. Sayer had presented the brilliant report and tables which I have condensed above, Prof. Frank H. Hamilton, the man to whom, of all others, the profession is most indebted for the extent and accuracy of his statistical information upon the subject of fractures, published a full and detailed account of 21 cases, also treated in Bellevue Hospital, by the method of Prof. Sayer, just described, with results as follows: Shortening ⅜ of an inch, 2 cases; ½ inch, 1 case; ⅝ inch, 1 case; ¾ inch, 3 cases; 1 inch, 3 cases; 1¼ inches, 2 cases; 1½ inches, 1 case; 1¾ inches, 1 case; 2 inches, 1 case, and 2 cases of gangrene and death, which he attributes to strangulation, by reason of the swelling of the soft parts after the dressings were applied. These tables surely do not offer strong encouragement to others, to try the new method by which "perfect results are to be assured."

That they may be the more readily contrasted with the results of other modes of treatment, Prof. Hamilton submits,

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in the October number of the same Journal, for the same year (1874), another table, in which he has collated and classified 308 cases of fracture of the femur, treated in Bellevue Hospital from 1865 to 1873, by nine different attending surgeons, one of whom was Prof. Sayer, and by different modes of treatment, which show an average shortening of ¾ of an inch. This report is also supplemented by a full daily record of two additional cases of fracture of the femur treated at Bellevue by Dr. Sayer's method, one a healthy woman of 24, the other a strong, muscular man of 60, in both of which gangrene and death occurred, one on the fourth day and the other on the seventh day after injury, these accidents, according to Prof. Hamilton, being properly attributed to the tightness of the immovable dressings.

The summing up of the record of this new and pretentious plan of treatment, which attains "positive results," and by which limbs are to be "left not shorter, but if anything a little longer" than before they were broken, is that of the 63 cases recorded, only 1 in 17 are reported without shortening, while 4, or 1 in 15, died of gangrene, attributed, we presume with justice, to the immovable dressings applied before the swelling had reached its maximum, and that in the remaining cases the average results are not better than those which obtain under old and well-established modes of treatment. It is not safe to say that we have yet any contrivance for the treatment of a fractured femur which is safer, or will yield better average results, than the long splint, with extension by adhesive straps, and counter-extension by axillary pad and perineal band, with short inside splints, or double long splints for children and intractable persons.

In the treatment of fractures of the tibia or fibula, or tibia and fibula, I am more and more satisfied that the bi-valve, or book-cover splint, made of plaster of Paris and moulded to the limb, according to the method described in my report on Surgery, made to this Society last May, is a decided improvement upon any plan with which I am familiar.

This is not an immovable apparatus, but, on the contrary,

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its sides may be turned down to examine the limb, almost as easily as the sides of a fracture-box. The limb can be examined daily, or as often as desired. It is simply a perfect-fitting splint, extending from joint to joint, and with which the patient can move about on crutches as freely as he desires. It is, I presume, the experience of every surgeon, that the tendency to shortening is not as great in fractures of the leg as in those of the thigh, and I have found that below the knee a good plaster splint, made to embrace both joints, possesses sufficient longitudinal strength to prevent any unusual degree of shortening. I have never applied it above the knee, and would not venture to rely upon it, for this reason —it has always appeared to me that a more powerful extending and counter-extending apparatus is required to oppose the contractility of the powerful muscles of the thigh.

As to the prognosis, I will assert, as a general principle, that a fractured limb cannot be made as good as before the injury. There may be, and undoubtedly are, exceptions to this rule, but they do not occur so frequently as to destroy its force or value as a general rule. If you break your carriage-pole, a good mechanic will replace it with another quite as good, or if an axle-tree is broken it may be welded so smoothly that the place of fracture can not be easily found; but we cannot weld bones, nor take out the broken pieces and insert a new bone. Bones unite by a process peculiarly their own, the very nature of which is to induce deformity. The influences constantly at work opposing a perfect result are numerous, and usually insurmountable, it is, therefore, never safe to promise a union without some shortening and some deformity. And these facts ought always, in justice to the surgeon, to be made clear to the patient and friends, in the presence of a competent, impartial, and trustworthy witness, before proceeding to assume any responsibility in the case.

The people expect too much, both of the surgeon and the physician. They delight to attribute to their favorite doctor almost superhuman powers. The belief in marvelous cures,

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in natural bone-setters, in startling and instantaneous restoratious to health by magic, or, among the religious, in answer to prayer, is not yet extinct. There is a deep element of superstition in our nature, and it requires a constant guard on the part of the medical man to avoid giving it encouragement.

The generation of medical men which preceded us, had greater difficulties to encounter in this regard than we have. It was not a pleasant thing to treat fractured limbs fifty years ago. Please do not understand me as speaking now from personal experience. At the time to which I allude, my father was engaged in an extensive surgical practice in western New York, hence the state of facts then existing has more particularly attracted my attention. The belief then among medical men was quite general, and among the people almost universal, that a fractured limb could, and ought, always to be restored as perfect as its fellow, and for every failure to attain such a result, the surgeon must bear the blame. Hence suits for malpractice, tedious, harassing, and often vindictive, were of frequent occurrence. Indeed they became so common that few general practitioners of pecuniary responsibility dared to attempt to reduce fractures or dislocations; and at one time, there were few reputable practitioners who had not been called upon once or more to defend these vexatious suits. The evil was so great that it threatened to drive all the best men out of the profession, and only those who were so hopelessly impecunious that they felt sure of always beating a judgment, were safe in undertaking this class of practice. The teachers of surgery and a majority of the old text-books, taught, either directly or inferentially, that a skilful surgeon ought to repair a broken limb so that it be left as good as before the injury, or bear the responsibility. The law was then in an indefinite and chaotic state, for neither the rules of evidence or the law of responsibility was as clearly defined as now. There were no reliable statistics upon the subject of shortening and deformations, no extensive collection of fracture tables, as now, to

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rely upon as authority. The current medical literature misrepresented the true state of facts, for no one published his bad cases, but all boasted of their best results. To Prof. Frank H. Hamilton, of New York, more than to any other man in America, or elsewhere, is the profession indebted for the improved condition of things. Since 1849, he has been industriously at work collecting from every reliable source, and arranging in form to make available as evidence, the results of fractures. At one time he published a detailed record of 461 cases, and at another time a table comprising the record of over 600 cases. It is superfluous for me to say that the lesson plainly taught by these statistics was, that fractures do not heal without shortening or deformity; nor is it necessary to add that they were soon put in evidence in suits for malpractice, to antagonize the testimony of sanguine, inexperienced, and often envious experts, and that they produced a wholesome change in the legal relation of the practitioner, for soon, though juries continued to bear heavily upon him, the rulings of the court, and the sympathy of judge and bar were more favorable to him. These suits soon became less common, and the courts are now much less frequently the theatre where the pecuniary and professional slaughter of the surgeon is sought. Suits for malpractice are now rare, and judgments, confirmed in the higher courts, are much more rare. The era of legal danger is now so long past that it is fast being forgotten, and our danger now lies in the bold promises of the new plans of treatment, which are being pressed with great confidence, and with assurance of perfect results. Rose-colored statistics, based upon measurements made by enthusiasts, in support of some so called improvement, which is to make their inventor illustrious, are sources of danger. When surgeons, occupying prominent positions, assure us positively, that with their improvements no failures occur, all results are perfect, the limbs are all straight and all long enough, and that there is no necessity that they should ever be left too short, the practitioner may well be alarmed, for the era of litigation will surely follow this era of inordinate boasting.

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I deem it not inappropriate or unprofitable to supplement these views with some thoughts upon the legal relations of the subject, and I desire in this connection to express my obligations to the able work upon "Civil Malpractice," of Dr. M. A. McClellan, of Knoxville, Ill., published in the *Chicago Medical Journal for 1873*, from which I have quoted liberally.

He who peruses the Revised Statutes of Illinois, to ascertain his legal responsibility in surgical cases, will be surprised to find no clause, or section, of an act bearing upon the subject. The adjudication of these cases rests, not upon statutory enactment, but upon that great system of law so often eulogized as the perfection of human reason—the common law.

The undertaking of the surgeon, in the view of the law, when he assumes the care of a case, is to employ his best skill, care, and judgment in securing the best result within his power, in that particular case.

Malpractice is an improper discharge of a professional duty, either through want of skill or through negligence. All professions requiring skill and knowledge, bear the same legal relation to those engaging their services. The lawyer who, through negligence, or by reason of a lack of a respectable average degree of knowledge, loses his case, is as justly liable for damages as is the surgeon for bad results, for like reasons. The professional man is not held to warrant the result, unless he himself makes a special contract with a warranty, or makes such boastful promises as may be construed into a warranty. Neither does the law require the highest, but only a reasonable amount of skill and knowledge. Every case in the courts can not be managed by an Evarts or Butler, and it is manifestly absurd to suppose that every attorney is the intellectual equal of those men, and hold him responsible for the loss of every case which they might have gained; so, too, Hamilton or Gross can not attend every case of fracture, or reduce every dislocation, and to require of every country practitioner the degree of skill and knowledge which they

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possess is equally absurd. Care, diligence, faithfulness, and a fair average degree of skill and knowledge, are what the law requires.

It is true that juries are often more exacting, and are disposed to hold the surgeon responsible for the results, and it is equally true that more is expected by juries and the people of surgeons and physicians than of any other class of professional men, and for this we are ourselves not without blame. If a case were now pending in court, it would not be difficult to find practitioners who would go upon the witness stand, and take that occasion for advertising their superior skill, by boasting of their cures; no shortening, no deformity in their experience, never dreaming that their own bungling, their lack of capacity, even to measure a limb accurately, is responsible for their improbable statements. Yet such men mislead the public and juries, and sometimes courts, into the belief that perfect cures are the rule, and that someone is to blame for every exception to that rule.

Medical men sometimes impliedly warrant a perfect cure, by arrogating to themselves powers which they ought to know they do not possess, and having done so they are held to the fulfilment of their contract. See Jones on Bailment, page 99, also Blackstone's Com., page 165, for an elaboration of this idea. The law of responsibility on the part of the surgeon is well expressed in "Hillard on Torts." He says: "So an action lies against a surgeon for gross ignorance and want of skill, as well as for negligence and carelessness; though if the evidence be of negligence only, which was properly left to the jury and negatived by them, the court will not grant a new trial, because the jury were instructed that want of skill alone would not sustain the action. But, in general, a physician or surgeon is responsible only for ordinary or reasonable care and skill, and the exercise of his best judgment in matters of doubt; not for a want of the highest degree of skill. It is the duty of the patient to co-operate with his professional adviser, and to conform to the necessary prescriptions, but if he will not, or,

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under the pressure of pain, he can not, he has no right to hold his surgeon responsible for his own neglect. The implied contract of a surgeon is not to cure, but to possess and employ, in the treatment of a case, such reasonable skill and diligence as are ordinarily exercised in his profession by thoroughly educated surgeons; and in judging of the degree of skill required, regard is had to the advanced state of the profession at the time." This last clause seems to teach that the surgeon is bound to progress with the times, and keep himself posted in all the well-established improvements in his profession. To illustrate, if it were a fact, as claimed by Prof. Sayer, that the plaster of Paris splints will insure perfect results in cases of fracture of the femur, then the surgeon would be held at fault if he failed to know of, or employ, such improved mode of treatment.

In estimating the degree of skill and knowledge required in a particular case, there is no inflexible rule. Each case must be judged by its merits. The same degree of skill is not, however, required of the practitioner in the rural districts, as in our large commercial cities, where hospitals abound, and where the opportunities for acquiring knowledge are much above the average. "The least amount of skill, therefore, with which a fair proportion of the practitioners of a given locality are endowed, is taken as the criterion by which to judge the physician's skill and ability."—*Bovier's Institutes*, pp. 1004 and 1005.

The possession of a diploma from a reputable medical college is a presumptive, but not a positive, evidence of the possession of ordinary skill and knowledge.

The practitioner who visits his patient in a state of intoxication, is presumed not to exercise ordinary skill, even though he may possess very superior professional attainments. Negligence seems to be more severely dealt with by the courts than ignorance, and for this there are many well-grounded reasons, for though all cannot be equally learned, all can be careful, attentive, and diligent in rendering to the suffering such skill, judgment, and professional knowledge as

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they may possess, and for a failure to do so, are very properly held responsible. The country practitioner cannot be as learned or skilful as the great teachers of surgery in our large cities, but he can be as faithful and as earnest in his efforts for the relief of his suffering fellow-man.

It is not necessary that the surgeon or physician should have received any compensation, or that there should be any prospect of ever receiving pay, to make him liable for the bad results of negligence. If he has undertaken the case as a charity, and has never registered the patient's name in his fee-book, he is still bound to give all the necessary care and attention usual in such cases; and if negligence be proven, and the result be bad, the law presumes that the result might have been better had there been due care, diligence, and attention. So it appears that a bad result, which was really inevitable, and which no amount of care, diligence, or skill could have averted, may, where negligence is proven, be unjustly attributed to such negligence. Where there was no compensation, the services being rendered as a gratuity, the Supreme Court of this State has held that the medical attendant shall not be held responsible, even for gross ignorance, but that gross negligence, and that alone, shall render him answerable in damages.—Richey *v.* West, 23 Ill. Reports.

It is of the first importance, in a suit for malpractice, that the defendant be able to prove that he has given the case all the attention and care required by the nature of the injury, and this is not less important in charity cases, for here the presumption of negligence will be sustained by the impecunious condition of the patient, and juries will be ever ready to believe that such cases have been neglected. So prone is man to judge others by himself, that the average juror finds it difficult to appreciate the high sense of honor and faithfulness to duty which actuates the physician in his intercourse with the poor.

It is not safe for the surgeon to allow himself to be too easily dismissed from his attendance upon surgical cases, nor

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even to cease his visits when it is intimated to him by a penurious patient, that he thinks his attentions too zealous, except he has clearly stated the requirements of the case before responsible witnesses, and thus compelled the patient to assume all responsibility for a discontinuance of further visits.

The law tolerates, and recognizes as equals, all systems of medicine, but it presumes that every practitioner adheres to the system which he professes, and judges his degree of skill and knowledge by his adherence to that system. So, if a physician professing to follow one system, shall really practice according to the teachings of another system, at variance with that he professes to employ, he may be held to answer for damages, by reason of fraud, and because his failure to employ the means usually adopted by the system he claims to follow, shall be accounted as a lack of ordinary skill and knowledge. The Superior Court of New York (1st Hill), has decided that he who offers to practice homœopathy or allopathy as his patients may prefer, is a quack in his profession. While a person professing one system of medicine cannot be expected to follow any other, or be judged by the rules of practice of any other system, yet he can, and ought to be held to an honest following of the system he professes. The law expects of all practitioners ordinary care and skill, but if a man employ a "root doctor," or a "water doctor," he has no right to expect of him the same remedies, or the same treatment, that the regular and educated physician would employ. The law permits all persons to treat the sick, and tamper with the life and health of others. In a case where death resulted from an injudicious administration of lobelia, by an ignorant pretender, it was held that the party prescribing medicines cannot be held guilty, though death result from their administration, if they were prescribed with honest intent; "for," says the learned judge, "there is no law which prohibits any man from prescribing for a sick person, with his consent, if he honestly intends to cure him by his prescription." But if a man employ an

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unskilful person, one not claiming skill and knowledge, to perform professional services for him, then the person so employed shall not be answerable in damages, resulting from his want of skill and knowledge, for this is clearly the fault of the employer; for, as has been said, if a man employ a "horse-farrier to treat his eye, and he loses the eye by his means, he shall blame himself for his folly."

It is now pretty well settled that text-books and medical literature are evidence, or may be introduced as evidence, to prove the rules of practice and other matters therein contained. These are really the most valuable and reliable of evidence upon medical questions, and it has been well said that the testimony of experts is only valuable for its reference to the authorities.

Finally, I will say that juries are usually prejudiced in favor of the patient. Judges, and especially is this the case in the higher courts, are wise, liberal, and unprejudiced, are governed only by law, and are natural lovers of justice. You may lose a case in the Circuit Court that you would be morally sure to win in a higher court. Never succumb to an adverse decision from a lower court, but take your case up on an appeal or bill of exceptions, where you can find less prejudice and more law. It has been well said, that "God in his infinite wisdom cannot foretell the verdict of a petit jury." Never compromise a case of alleged malpractice; never arbitrate it, except before a board composed of competent physicians, or honorable and high-minded members of the legal profession, or of both; and never pay a small sum to avoid litigation, because you deem it cheaper than to stand up for your rights. Your own self-respect will be destroyed and the interests of your chosen profession jeopardized by such cowardly conduct.

Dr. Ingals moved that the paper be received and referred. Carried.

Dr. Herriott then read his report, as follows:

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REPORT ON INGUINAL HERNIA.

By E. L. HERRIOTT, A.M., M.D., of Grafton.

Mr. President, and Members of the Illinois State Medical Society:

It may seem egotistical to present to you the subject of inguinal hernia, which has engaged the attention of many of the most eminent surgeons who have graced the profession, and called forth their learned efforts, in the many plans laid down in our text-books, for the alleviation of this malady.

Yet I am induced to do so, on account of the numerous subjects in its various forms, and that the recent experience of the profession throughout the country may be brought to your special notice, and its management here discussed; that, if possible, we may arrive at a judicious, simple, and practical method of treating it, so the general practitioner may not be baffled in the treatment of those cases that require immediate action; and also render a more reliable and permanent benefit in those that have not as yet proved serious, but are liable at any time to take on a condition that subjects the patient to such abject misery, and places his life in such imminent danger.

It is computed that there are not less than 450 persons suffering the inconvenience of this disease, residing in our little county of Jersey.

I will not attempt to cover the ground of the different varieties, but speak only of the more common forms of it. My object is more particularly to call your attention to radical cures, but will pass briefly over the strangulated variety.

In these days of conservative surgery, we should make the use of the knife the exception and not the rule, for the relief of these cases, which is contrary to the advice of many of our most worthy teachers.

Sir James Paget's advice is, in cases of strangulated hernia, not readily reducible, to operate. He says the sign we should most rely on, as commanding the operation, is

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vomiting, even though there are no other signs of strangulation present; and though there are noted kinds of vomiting characteristic of strangulation, never wait for any particular kind.

In Pott's Treatise on Ruptures, he says: "A hernia with painful stricture and stoppage of stools, is one of those cases in which we can seldom stand still, even for a short space of time, if we do not get forward we generally go backward."

On the other hand, Prof. Gross says, for years he has not been obliged to use the knife in a solitary instance, even where the strangulation had existed for three, four, and five days. That if, after remedies have been diligently applied for some hours, it be found that the renewed efforts at the taxis are unavailing, an operation should be performed with the least possible delay. That such a measure, however, is often necessary, I am unwilling to believe. On the contrary, I am satisfied from personal experience, that with the aid of anæsthetics, proper attention to the patient's posture, and a thorough knowledge of the anatomical parts, almost every case may be promptly relieved by the taxis, to which anæsthesia is almost his only auxiliary.

The first thing in the reduction of an inguinal hernia is to have a correct conception of the anatomical structure and surroundings, then select those auxiliaries that have proven most successful, and, with careful and vigorous efforts, the operator will seldom fail to accomplish his object.

The mouth of the sac is at the upper opening of the canal, or internal ring, and is therefore placed nearly in the middle of the space between the anterior superior spinous process of the ilium and the angle of the pubes. From this point the neck of the sac extends obliquely downward and inward, between the aponeurosis of the external oblique, and the facia transversalis, and the protrusion of the peritoneum, escaping through the lower opening of the canal, is continued directly downward, the sac usually lying immediately beneath the integuments in front of the spermatic cord. In attempting reduction by the hand, all our pressure should be concentrated in

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the direction upwards and outwards, so as to press the contents of the hernia toward the ring. The external oblique muscle should be relaxed; for this purpose the thorax should be elevated, and turned to the opposite side. The femoral facia, when tense, tightens Poupart's ligament, and in some degree, straightens the abdominal ring; to relax this the thigh should be bent and rotated inward.

There are many auxiliaries proposed, and we should become familiar with the most efficacious, and learn precisely what degree of reliance should be placed upon those means, and the applicability of them to the character and condition of the tumor we are treating, and the exact order in which they ought to be used, so as to insure success.

As pain is the precursor of many other violent accompaniments of a general character, the first indication is, if simple taxis fail, to temporarily alleviate the suffering, quiet and relax the muscular system. Where much tenderness or inflammation exists, local applications, and under some circumstances, perhaps bloodletting will next be in order. If the hernia is an old one, with very aggravated symptoms, and has not been seen until strangulation has existed for some time, or the patient has used violent efforts at reduction himself, of course the judgment should be very clear that gangrene has not set in, and the tumor manipulated very carefully.

Dr. Hill, of Bloomington, places the patient under chloroform, grasps the tumor with the left hand (in inguino-scrotal), draws it down out of the way of the stricture, then dilates the stricture, if at either ring, by forcing the thumb or index-finger of right hand, carrying the integument before it, through the ring, and after sufficient dilation, gently compresses the tumor until reduced.

He claims to have discovered this means by operating for the disease in 1856; in which case, instead of dividing the stricture with the knife, he dilated it with the finger. In this case he opened the hernial sac, and had the anxiety of a peritoneal inflammation.

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Again, in operating in 1857, he dilated the stricture as before, returned the contents of the sac, but did not open it. His patient made a much more satisfactory recovery. During the same year, he was called to operate on a physician where four or five others had exhausted their efforts and failed in reduction, but instead of operating he dilated, as before, and was rewarded with success in a very few minutes. Since which time he has never been obliged to operate, but has always been successful by this means of reduction.

Seutin is referred to by Gross, as having employed the same means of reduction. Dr. Bardwell, of Dixon, in a practice of 35 years, has never been obliged to operate for strangulated hernia, but has succeeded in reducing a great many cases. Does not give his mode of, or auxiliaries to, taxis. Dr. Ensign, of New Rutland, has succeeded in reducing two strangulated cases, all he has seen, by placing the patients in the proper position, and making use of hot fomentations to the tumor.

Dr. Traverse, of Amboy, reduced two cases, one by the use of the hot bath only, the other, a very severe one, by the hot bath and chloroform. Has never had occasion to use the knife.

Dr. Wright, of Clinton, has succeeded in reducing a number of strangulated cases, with the aid of chloroform—given until muscular relaxation was complete, but failed in one, upon which he performed the ordinary operation, opening the sac, and returning the contents. Case made good recovery, but without sac becoming closed.

The tractile method, by Daniel Leasure, M.D., of Pittsburg, Pa., reported in the *American Journal of Medical Science, for April, 1874*, has, in our opinion, much merit. It is that of swinging the patient pendulous from the lower extremities, thereby relieving pressure by reversed gravitation, and also having the effect of pulling, by their own weight, the incarcerated portions of omentum and intestine through the contracted neck of the sac, instead of the pushing process. It is not claimed as new, but has not been much practiced. A

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full description of this method, with an account of four cases treated, can be found in the above No. of that Journal.

Dr. Foster reports, in the *London Lancet for August, 1870*, two cases that had existed for years in a reducible form, having become strangulated, were reduced by the application of cold water alone, followed by the ordinary taxis.

An abstract is published in Vol. 54 of *Rankin's Abstract, for 1872*, in which the aspirator was used in a case of a man aged 82 years, the tumor being distended by gas and fluid fecal matter, which was withdrawn, and easy reduction followed.

The following case will illustrate the mode by which the writer has never had the misfortune to fail in completing a reduction of the most aggravated cases that have come under his notice:

Michael Murphy, æt. about 27, laborer in the stone-quarries, stout, robust, and muscular, had been engaged in loading rock upon a truck car. In lifting on a bar, the rock careened, and the end of the bar struck against his abdomen, while lifting on a strain. He complained some, but did not stop work. Near the following morning, he was attacked with severe colicy pains throughout the abdomen. When daylight came, he started up town to seek relief. On going to my office I found him lying on the door-step, now suffering intensely, and not knowing anything of the nature of his trouble. On examining him found an inguino-scrotal enterocele of considerable size, of right side. Having him already on the floor, I flexed his limbs, placed him on the left side, and endeavored to make the reduction. After one or two attempts, readily concluded that more than ordinary efforts would be required to accomplish it. I then administered a full dose of opium, and had him conveyed to his boarding-house. By this time, vomiting and retching set in, with an inclination to go to stool. The countenance was assuming a very anxious appearance, and, in all the symptoms were growing somewhat alarming. I now hastened to chloroform him, and again endeavored to reduce the tumor, but fail-

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ing as before, he was at once placed in a warm bath, at 105°, and the anæsthetic continued mildly. In about eight minutes, I had him lifted from the water, and laid upon the floor, with his hips elevated, and with a small piece of ice in my hand, I applied it to the tumor for about four or five minutes, then grasped the tumor with my right hand, first drawing it downward while I made pressure each side of the neck of tumor, at or below the rings, with fingers of left hand, and immediately following with a gentle pressure upward, the tumor began to slip, and finally returned with a gurgle. An enema opened the bowels, and I adjusted his bandana with a pad, until he could procure a truss. He made a good recovery, but, contrary to my advice, went to work without a truss, and I lost sight of him for about four months, when he told me he had never been troubled with it any more, and was perfectly able for his accustomed labor. Here was a spontaneous cure, while apparently laboring under every disadvantage.

Subsequently, my plan of action has been, after trying simple taxis: 1st, warm bath; 2d, chloroform, commencing immediately on or before emerging from bath; 3d, cold to tumor—ice if convenient, if not, cold water. By the first two we get perfect relaxation, and by ice to tumor, we get contraction and condensation to this part, and by first drawing it downward we wrest it from the grasp of the constriction, and those parts being relaxed, with the patient in the proper attitude, with a careful manipulation of the tumor, we have always been fortunate enough never to require an operation.

The very few responses to circulars issued, indicate either a very small number of cases treated, by the members of this Society, or very little interest taken in the general results. One of the objects of the writer was to gather some reliable statistics as to the *ratio* of deaths following the more recent operations for the strangulated variety. In this I have entirely failed, not having received a single report of a case terminating fatally. Can it be possible that such an

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operation has been divested of all danger, and that the patient who undergoes it is running no risk whatever? Mr. Hey calculated, some years back, that the proportion of deaths were only about 1 in 50. If this should be correct, the cases operated on must have been those very favorable for it, many of which might possibly have been relieved without the operation, while only the more unfavorable ones dying, has very much reduced the percentage of unsuccessful operations. At the present day, we doubt if as good a showing as the above would be made, could the facts be gathered from operations performed, where a scrutinizing judgment had determined that it was the only means of relief.

Dr. Prince writes that he is performing a fair share of operations, with satisfactory success; does not state whether any cases *survive the operation or not.* We are to presume they generally, perhaps all, recover.

Sir James Spence gives as a result of 127 cases operated on, 20 per cent. of deaths. These include all conditions and circumstances; 50 per cent of these the bowel was found gangrened. In 25 per cent peritonitis commenced before the operation.

As to the operation, there is much difference of opinion at the present day, as to the propriety of opening the hernial sac, except in cases in which such a proceeding is undubitably indicated.

Dr. Prince writes, "In one instance I returned the sac, and had the mortification to find that my patient mortified," and remarks, "It is a dangerous proceeding, and one that should never be followed. It is necessary to be sure that the stricture is relieved, and for this certainty the strictured portion of intestine should be pulled out and inspected, before the loop is returned."

Mr. George Y. Heath, in an address published in the *British Medical Journal, Aug. 13, 1870,* says he has never known a fatal case, except where the sac was opened, and unless there is some special reason, as indubitable signs of

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change in the bowels, he invariably attempts the reduction without opening the sac, and, according to his own experience, the test of the propriety of this proceeding, is its practicability. This substantiates the fact that many apparently serious strictures may be dilated and the hernial contents returned, without resort to the knife.

In conclusion, I thank those gentlemen who have so kindly furnished me the information which I have quoted to you, but must say I have been sadly mistaken in regard to the importance of this subject, if I am to judge from the number of contributions received. The report which should be to the fullest extent statistical, is comparatively a failure. And why? Is it because there has been so few cases in the great State of Illinois, to be treated? Or is it such a trivial matter that the profession have taken so little heed to it? Or can it be because the different methods that may have been employed in its treatment have so signally failed, that those who have undertaken it, are unwilling to report results? Chicago, Quincy, and Peoria, three of the more important cities, not only of the State, but of the West, have not been heard from. Hoping this reference to the subject may bring it directly before your notice for investigation, I submit this paper.

In regard to the treatment of hernia readily reducible, not only little attention seems to be bestowed on it beyond the adjusting of a truss, but further interference for the prevention of a return, is rather ignored, either as dangerous, or giving unreliable and temporary relief, by the profession of the West.

Whatever be the means we employ, occlusion of the inguinal canal, is what we wish to bring about, for the prevention of the hernial descent. The numerous instances of spontaneous cures, suggests to us that, with few exceptions, this object is attainable, if proper attention is given to it. This canal being surrounded by serous membrane, normally secretes only sufficient fluid for lubrication. Irritative or inflammatory effusion, is the fibrine of the blood, only some-

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what modified by disease, which after coagulating goes on to organize and becomes vascular tissue, which is supplied with the necessary material for its support. Rest is favorable to the coagulating of blood, consequently, also to lymph effused through the excitement of irritation or inflammation, which is the beginning of complete organization. Hence, by whatever process the irritative or inflammatory increased effusion is produced, rest is a necessary accompaniment for its organization and adhesion, and the means which will most readily bring about this result with the least comparative risk, is most deserving of our confidence. With the use of the truss we seldom have the necessary rest.

In the case of spontaneous cure, referred to, in the foregoing, as following severe strangulation, the lymph was effused while the lining membranes of the canal were in a high state of excitement or inflammation, produced by the disease, and organization and adhesion took place while in a state of perfect rest, without the use of a truss, and this, too, in a very short time.

Dr. J. B. Hamilton, formerly of this State, and now of U. S. Army, writes, "I have adjusted trusses of different kinds and manufactures on many subjects, but have never known one to produce a radical cure; that, according to my observation, men take to trusses as they do to wives, 'for better or worse—for life.'"

Dr. Hill, of Bloomington, has never known but one case, in the adult, cured by wearing a truss; has seen a few cases of cure, in children.

Dr. Ensign, of New Rutland, has applied trusses to five cases; no cures.

Dr. Read, of Chandlerville, has seen two cases cured, by wearing Leslie's "Radical-Cure Truss," one worn two years, the other eighteen months. Does not give the number of those wearing trusses, under his notice.

Dr. Prince writes, "I have no doubt that most cases can be cured by the persistent wearing of a truss, which never permits the hernial descent, and which presses with sufficient force to be uncomfortable."

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How few laboring men, under all circumstances, can be accommodated with such an appliance, that will not interfere with their comfort, so as to allow them to follow their avocation, is more readily judged of in a locality, such as surrounds the writer, where the working of extensive rock-quarries, subjects the laborer to peculiar liability to such injuries.

Dr. Wright, of Clinton, has never known a radical cure from truss. Does not state how many have come under his notice.

Dr. Hodgen, of St. Louis, has known several radical cures from wearing trusses; does not know length of time worn.

The writer has adjusted many trusses, from the cheapest to the most expensive; soft pads and hard rubber, with hard, smooth pads, also with the uneven surfaces, for the purpose of producing greater irritation, and thereby adhesion, but has never had the satisfaction of witnessing but one case that approximated a radical cure. In this instance, a Seely hard rubber truss has been worn eleven years, and the patient is still afraid to leave it off. Yet I think the cure perfect.

As to the operation for radical cure, the statistics are still more meagre than in that part of subject already passed over.

Dr. Prince writes, "Have made one cure successfully, by following Chisholm's method, but think it is a dangerous operation." Does not state whether he has made any attempts unsuccessfully or not.

Dr. Hill has succeeded in curing a few cases, by cutting down and paring edges of ring.

Dr. Hodgen writes, he has made a good number of operations for radical cures, which have not generally been permanently successful. Does not give the method by which he usually operates.

Dr. Gregory writes, he has operated by Wood's and Chisholm's methods, with some success, but not very satisfactory.

There are many methods for operating for radical cures in vogue, going the rounds of the medical press, but few of our western professionals, so far as I have been able to ascertain,

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place much confidence in the durability of these operations, or else consider that there is too much risk taken, to bring them into general practice. Yet this is much too large a class of sufferers among our population, not to command the attention of medical men generally.

Prof. John Wood, whose method of operating has probably been as successful as any other, a full description of which will be found in the *Half-Yearly Abstract for July, 1873*, says, "After performing operations for radical cures more than 200 times, I have grounds for belief, that, in a healthy subject, the peritoneum may be dealt with as freely and safely as any other tissue.

A more simple, and seemingly as efficacious, is an operation recommended by A. Vans-Best, an account of which will be found in the *Abstract for July, 1871*.

Having been impressed with the operation of Dr. Pancoast, as perhaps the most simple and least dangerous, and withal, occupying less time for confinement of patient, which consists of introducing a small trocar and canula, and injecting tinct. of iodine or cantharides, I have been induced to substitute the hypodermic syringe for the trocar and canula. The operation is performed thus:

After patient is prepared as for any other mode of operating, have an assistant introduce index-finger into the canal, carrying the integument upward before it, until reaching the internal ring: making sure that you have no intestine in the canal, below the parts invaginated; with the fingers of the other hand let him make firm pressure immediately above the ring, withdrawing the finger in the canal a little. With fingers and thumb of left hand, pinch well up the parts from finger in canal, and with the syringe prepared with tinct. iodine, introduce it up through the invaginated parts, until you have it directly in the canal; now introduce the fluid gradually, having at the same time the finger and syringe withdrawn slowly, until some distance in the canal below has been traversed by the fluid. The operation is now complete, except to adjust a truss with soft pad over the internal ring,

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keeping patient very quiet in the recumbent posture, and taking measures to prevent undue inflammatory action. After this has subsided, he is allowed to get up, and the truss adjusted a little lower down, he being cautioned against everything that would tend to produce pressure from above. The bowels should be relieved every day by an enema, not allowing any accumulation in the rectum.

I have but one case by which to illustrate the expediency of this operation, which, as you are well aware, amounts to very little from which to make up statistics. Yet it is suggestive, and an experiment in which there is, comparatively, little risk, and by it many unfortunates may be benefited. The process of inflammation and adhesion is rapid, and soon completed, if suppuration should not take place. The case referred to, was discharged after twelve days, with directions to continue the use of truss for some time.

On motion, the report was accepted; and referred to the Committee on Publication.

The President.—The time has now arrived when it will be proper to consider the report of the Nominating Committee. The Chairman of the Committee will please report.

Dr. Haller.—Your Committee, assigned to the duty of reporting upon suitable persons to act as officers, after consultation, came to the conclusion that it was better to allow tbe Chairmen of the several Standing Committees to appoint their own assistants, consequently, we only appointed Chairmen of the different Special Committees, with power to select the men they wish to co-operate with them, in time to have them published in the printed Transactions. We beg leave to make the following report:—

REPORT OF THE NOMINATING COMMITTEE.

OFFICERS FOR THE ENSUING YEAR.

President—THOMAS D. WASHBURN, M.D., - - - - - Hillsboro.
First Vice-President—J. L. WHITE, M.D., - - - - - Bloomington.
Second Vice-President—JOHN WRIGHT, M.D., - - - - - Clinton.
Treasurer—JOHN H. HOLLISTER, M.D., - - - - - - Chicago.
Permanent-Secretary—T. DAVIS FITCH, M.D., - - - - - Chicago.
Assistant-Secretary—C. B. JOHNSON, M.D., - - - - - - Tolona.

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STANDING COMMITTEES.

Board of Censors.

E. WENGER, M.D., Gilman.
E. INGALS, M.D., Chicago.
E. L. HERRIOTT. M.D., Grafton.

Committee of Arrangements.

S. H. BIRNEY, M.D., Urbana.
A. T. DARRAH, M.D., Tolona.
J. T. PEARMAN, M.D., Champaign.

Practical Medicine.

WM. MASSIE, M.D., Grand View.

Committee on Surgery.

JOHN E. OWENS, M.D., Chicago.

Committte on Obstetrics.

M. W. WALTON, M.D., Ridott.

Committee on Drugs and Medicines.

J. H. ETHERIDGE, M.D., Chicago.

Committee on Necrology,

G. W. ALBIN, M.D., Neoga.

Committeee on Ophthalmology.

E. L. HOLMES, M.D., Chicago.

Committee on Otology.

F. C. HOTZ, M.D., Chicago.

Committee on Diseases of Children.

J. L. WILLIAMS, M.D., Otterville.

Committee on Medical Jurisprudence.

M. A. MCCLELLAN, M.D., Knoxville.

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Committee on Progress in Physiology.

SARAH HACKETT STEVENSON, M.D., Chicago.

Committee on Idiocy.

C. T. WILBUR, M.D., Jacksonville.

Committee on Neurology.

WALTER HAY, M.D., Chicago.

Committee on Gynæcology.

A. REEVES JACKSON, M.D., Chicago.

Committee on Hygiene.

JEHU LITTLE, M.D., Leroy.

Committee on Diagnosis and Extirpation of Tumors.

W. L. GOODELL, M.D., Effingham.

Committee on Empiricism.

J. F. TODD, M.D., Galva.

Committee on Prudence in the Administration of Therapeutic Agents.

E. INGALS, M.D., Chicago.

Committee on Uterine Displacements.

T. DAVIS FITCH, M.D., Chicago.

Committee on Electro-Therapeutics.

DAVID PRINCE, M.D., Jacksonville.

The President.—You have heard the report. There are several subdivisions, which will need separate consideration. Will you receive it?

The Secretary moved it be received. The motion prevailed.

The President.—The first topic is this: shall the change, as recommended by the Committee, be made, by which the several Chairmen shall designate the remaining members of the Committees?

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Dr. Ingals.—I move that it be adopted.

The Secretary.—I believe it is in conflict with the By-Laws of the Society. They say, "There shall be appointed, at each annual meeting, Committees, consisting of three each."

Dr. Ingals.—I withdraw my motion.

Dr. Peirce moved that the report be referred back to the Nominating Committee, with instructions to fill up the Committees according to the By-Laws. The motion prevailed.

Dr. Hay.—I ask whether the phraseology of the By-Law conflicts with the action of the Committee. As I understand it, the Committee shall be organized, —does that organization imply that they shall be appointed? I ask for information.

The Secretary.—It has always been the habit of the Society to have the Standing Committees all nominated by the Committee on Nomination. It is a violation of a long-established rule, and the evident interpretation of the Constitution and By-Laws of the Society. I should, personally, have no objection to the proposed change.

Dr. Foote.—The design of the Committee was not to do anything in conflict with the By-Laws, but it was thought that those gentlemen appointed as Chairmen of the different Committees would know better who would be able to correspond with them, and be efficient in making a report which would be creditable to the Society. It was supposed they would designate such persons before the Society should adjourn, and their names could be entered as appointed by the Society.

The President.—I would suggest that it could be accomplished by requesting the Chairman of each Committee to suggest other names. The real objection to leaving this matter open is, that some of the Chairmen might be negligent, and the Committees would not be filled.

Dr. Birney.—I would suggest whether it would not be well for the Committee to retire, and fill the vacancies.

Dr. Haller.—We would like to know if there are any other amendments, so that we could complete the report at one session.

The President.—Will the Secretary read the roll of Officers?

The Secretary read the list, and the names were adopted as reported.

The President.—The next topic refers to the place of holding the next annual meeting. Will the Secretary announce it again?

Dr. Haller.—I have just had my attention called to it. Our Secretary neglected to embrace this in the report. It is Urbana.

The President.—Shall Urbana be the next place of meeting?

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A motion in the affirmative was made and carried.

Dr. Haller thought the vacancies should be filled in open meeting of the Association.

Dr. Jewell thought the Committee should retire and select the balance of the Committees. If there was anybody but the Chairmen wanted, let them say so to the Committee now.

Dr. Haller.—In order that this may be brought about to the best advantage, I would suggest that if any person present knows of a person whom he would like to have act, he should designate the name to the Committee, by writing the names upon a slip of paper and handing them to the Chairman.

Dr. Powell.—I would like to inquire whether the Chairman of the Committee on Surgery is a member of the Society.

The President.—I think so,—he joined at Chicago.

The Nominating Committee then retired to complete their report.

The President, after fuller information.—The Chairman of the Nominating Committee will bear in mind that the Chairman of the Committee on Surgery is not a member of the Society. The next business is the report on Obstetrics —is the report ready?

The Secretary.—Dr. Peirce will submit the report of Dr. Rood, a member of the Committee.

Dr. Peirce.—I would like to wait a little while, to look it over.

The President.—I would suggest, then, that the next thing in order is the report on Necrology, of which Dr. Ingals is Chairman. In the meantime, our Secretary has with him a number of instruments, and the proper time for presenting them would be in connection with the report on Obstetrics. Dr. Fitch will present the instruments, with his remarks upon them.

REPORT ON GYNECOLOGICAL INSTRUMENTS.

By T. DAVIS FITCH, M.D.,
Gynecologist Cook County Hospital, etc., etc.

Mr. President and Gentlemen of the Illinois State Medical Society:—I desire to present to you some new and improved Gynecological Instruments from members of the profession in this State.

First, I present you with a Speculum which has never received any public notice whatever, probably on account

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of the extreme modesty of the inventor, Dr. H. Webster Jones, of Chicago, a member of this Society. The Doctor has given special attention to the diseases of women, for several years past.

This instrument is not proffered as a novelty, but as possessing certain improvements or qualifications adapting it for use when a larger Speculum would be inappropriate.

These are, in brief: its small calibre, its joints (doubled for greater durability and to avoid pinching) so placed as to be within the *ostium vagina* when *in situ*, thus allowing a full expansion of its blades, without further distension of narrow and sensitive parts. You will observe that the instrument is bi-valvular—having an anterior and posterior blade—the posterior being longer than the anterior, in order to an easier adjustment of the axes of the uterus to the axes of the Speculum, in cases when the so-called ante-version is the rule, not the exception; and, last: the situation and brevity of the handles. The first overcomes a difficulty that we always find in the Cusco and Storer instruments, in the engagement of the cervix uteri, in whatever position you may find it; *e. g.*, in ante-version, it is necessary to depress the uterine extremity, in retro-version, to elevate it; in other words, you can elevate or depress the uterine extremity of the instrument with great facility, without changing it, as you are obliged to do with the Cusco; *e. g.*, if you introduce a Cusco, with the handles posteriorly, in a case of retro-version, you cannot engage the cervix without turning the handles in front of the *mons veneris;* and in cases of ante-version, the handles must necessarily be against the perineum. The second, whilst they are sufficiently long and strong to give you perfect control over the instrument, are not so heavy (as

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in the case of Smith's Speculum) as to dislodge it when untouched by the operator.

These improvements give the instrument great value in the treatment of cases of vaginismus,—fissure, strong and painful contraction of the sphincter vagina from any cause,—with which cases you are doubtless all familiar. Especially is it useful in the examinations of virgins, where you will often find it very difficult, if not impossible, to use a Cusco or Storer, without the aid of an anæsthetic.

The instrument is light and nickle-plated (which I much prefer to silver, on account of the less liability to coloration or corrosion), and fills a place in the Gynecological Armamentarium that we have long needed.

Dr. Jones suggests that there is no lubricating material to be compared with castor oil, and that all Specula, jointed interiorly, should be cleansed *most carefully* after use.

Gentlemen:—I here present you with an improved Tri-Valve Speculum, and a Uterine Tenaculum, by Prof. Dan'l T. Nelson, M.D., of Chicago Medical College.

Fig. 1.

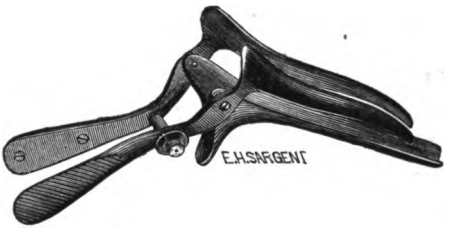

Fig. 2.

Fig. 3.

Fig. 1 shows the Speculum nearly closed. Fig. 2, the Speculum opened to its full extent. Fig. 3, the Tenaculum referred to in this article.

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As will be seen, it is more like Nott's latest than any other instrument. It differs from Nott's in having the lower blade longer, and of better shape to receive the neck of the uterus, and in having handles for elevating and holding the upper blades.

The measurements of the instrument are, as follows: lower blade, 4⅛ inches; extending beyond upper blades, ½ inch; length of instrument, including handles, 7½ inches. The upper blades are made shorter than the lower, to correspond with the anatomy of the parts, as the posterior vaginal wall is longer than the anterior.

Some object to Nott's, and doubtless will to this instrument, that it is too short. But no physician has any difficulty in reaching the os uteri, except in rare cases, with the index-finger, the available length of which rarely exceeds three and one-half inches, and the lower blade of this instrument is four and one-half inches in length, and the upper blade nearly four inches. If the os is not exposed when the instrument is expanded, the difficulty is not in the length of the instrument, but in its position, or because it is not sufficiently expanded to raise the anterior wall of the vagina. To obviate this objection, Prof. Nelson, has an instrument made with the blades each, half an inch longer, which is known as Nelson's Long Speculum.

The Tenaculum used is similar to Nott's, except that it has a handle like an applicator, and has a hook more easily unfastened. When the Tenaculum is fastened into the anterior labium of the cervix, from below upward, it rarely is felt at all by the patient, and the little hemorrhage which may occur will be of no disadvantage. The advantages claimed for this Speculum, by Prof. Nelson, are:

1. Its length is such as to expose the uterus *in situ*, by bringing it *nearer* the external organs, rather than pressing it deeper into the pelvis, as do the longer instruments.

2. Thus giving a *better light*, which is often of great importance, especially when the physician is obliged to visit the patient, at her home.

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3. The instrument is so short, and the upper blades expand in such a manner as to readily allow of the rectifying of any malpositions of the uterus through the expanded instrument, which is impossible in all the long instruments.

4. A large portion of the *vaginal walls* are exposed for examination and treatment, if needed, and by rotating the instrument the whole may be exposed.

5. While the blades are short, they are capable of expanding the vaginal walls more than any of the short instruments, and, indeed, more than most of the long ones.

6. The upper blades expand in such a way that the os may be exposed in a virgin or nullipara, without dilating the orifice of the vagina painfully.

7. The urethra and meatus are not pressed by the instrument, but lie between the upper blades, where they may be readily examined, and treated if necessary.

8. It may also be used as a Rectal Speculum, by introducing the instrument, after dilating the sphincter, in such a position as to allow the part to be operated upon to present between the upper blades.

The instrument is self-retaining when sufficiently expanded.

The Speculum is nickle-plated; price, $9. Tenaculum, $1.50 each.

With regard to the comparative merits of una-valve, tri-valve, and quadri-valve instruments, I leave you to judge for yourselves. There is no doubt but what each have their special advantages, and that a Gynecological Armamentarium is not complete without one or more of each, though we are all creatures of habit, and become, in a measure, wedded to the instrument with which we become most familiar; *e. g.*, I use, in ordinary practice, the bi-valve of Cusco, Storer, and Jones, but in all surgical operations on the vagina, and some on the cervix, a Sims' Speculum, or some one of its modifications, are brought into requisition. One of the greatest objections to the bi-valve (antero-posterior blades) is that the anterior blade presses on the body of the

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uterus, when the blades are expanded, so that in ante-version it gives pain, when the organ is sensitive and, in a great degree, corrects the mal-position, so that the confirmation of the diagnosis made by the touch, and conjoined manipulation is not established, by the use of the sound when the Speculum is *in situ.* The same objection holds good in regard to the quadri-valve. This objection is entirely overcome by the una-valve (Sims), and, in a great measure, overcome by the tri-valve of Nott, Nelson, etc., etc.

The instrument which I here show you is a Vaginal Retractor, devised by Dr. A. Reeves Jackson, of Chicago. In using it, the patient should lie on the back upon a table or firm mattress. The head and shoulders should be considerably, and the hips slightly, elevated. The buttocks are brought to project beyond the end of the table, and the thighs flexed upon the abdomen in an exaggerated lithotomy position. This permits of a ready introduction of the instrument; and the handle, which is held by an assistant, is drawn directly downward.

Jackson's Vaginal Retractor.

By simply depressing the perineum and posterior vaginal wall, the cervix uteri is brought easily into view, and is commonly within an inch and a-half of the vulvar outlet, its descent being aided by the position of the patient and the downward pressure of the abdominal contents.

Dr. Jackson uses this instrument in preference to Sims' Speculum, for all the purposes to which the latter is applicable, and states that by its use the greatest possible facility is afforded for the operation for vesico-vaginal fistula, the introduction of the uterine sound, tents, intra-uterine pessaries and medicinal applications, amputation of the cervix,

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etc., etc. If the anterior lip of the cervix be steadied and drawn downward by a tenaculum, as Dr. Jackson prefers, a short, double-hook vulsellum, the sound or a tent may be passed into the uterine cavity, even in cases of very extreme flexion.

By the use of this instrument, in the manner detailed, the cervix uteri, instead of *falling away* from the operator, as it does when Sims' Speculum is used, is brought toward him.

Another advantage resulting from this position of the patient, especially in protracted operations, is the increased facility it gives for the employment of anæsthetics, always very difficult when the patient is in either the prone or semi-prone position.

This instrument is not plated, as you might suppose. The metal of which it is made is an alloy, composed by Mr. E. H. Sargent, an accomplished druggist and instrument dealer, of Chicago. It is simply polished, and seems to be especially well adapted for the manufacture of Specula by reason of its power to resist the destructive action of the various acid and caustic substances, now so frequently used in gynecological practice. Nitric acid, the acid nitrate of mercury, solutions of nitrate of silver, chromic acid, and the like, merely tarnish the surface, but do not corrode it. After their use, the instrument may have its fine polish restored by rubbing with a piece of chamois leather, or similar material.

The price of the Retractor is $3, and is made of two sizes.

I next exhibit to you the instrument known in Chicago as Jackson's Speculum. Dr. Jackson has assured me, however, that he neither deserves or claims any credit as its inventor. He has made some modifications in it, but states that its essential features are the result of the ingenuity of Dr. Hough, of Philadelphia.

It is, as you observe, a bi-valve instrument, in which the lower, or posterior blade, projects three-fourths of an inch beyond the upper. It is self-retaining. The expansion of

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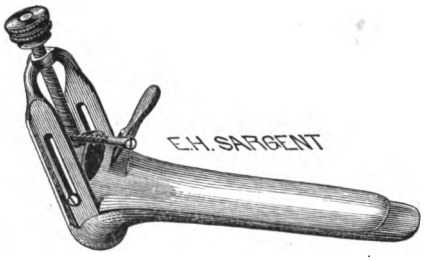

Jackson's Speculum.

the blades, after introduction, is effected by means of two screws; one acting upon the proximal and the other upon the distal end. Either or both may be used. The instrument is used with the patient lying on the back.

The advantages claimed by Dr. Jackson for this instrument are:

1. The projecting lower blade, which, passing readily behind the cervix, permits it to fall forward, bringing the os clearly into view.

2. The facility with which the vulvar end of the instrument may be expanded to any degree required, without, at the same time, expanding unduly the uterine end.

3. The lever and handle (if I may so call all this portion), being upward when the instrument is introduced, furnish a convenient support for the folding about it, of the sheet or dress of the patient, thus enabling the operator to keep her free from exposure, at the same time that his view is in no danger of being obstructed.

Two sizes of this instrument are now manufactured by Mr. E. H. Sargent, of Chicago, differing only in the length of the blades. The original—this one—has a length of 4½ inches of the posterior blade, but, at Dr. Jackson's suggestion, another size, having the posterior blade nearly an inch shorter, has been made and is preferred by him.

The price of the largest is $9, and of the shortest $7.

Gentlemen:—I here present you with an improved Sound and Uterimeter, or Measurer, of my own device.

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E. H. SARGENT.
Fitch's Sound and Uterimeter.

a. Coil slide. *b.* Set-screw. *c.* Flattened and numbered portion of the staff.

It is, as you will see, of the usual length and of the size of Sims' Improved Simpson. It is made of copper, heavily plated with silver, both these materials possessing great flexibility, so as to enable you to bend the instrument in any form, thereby adapting it to any curve which the uterus may possess. This is, in my opinion, a necessary quality in all good sounds, as the operator should always form the sound to the uterus, and not, as he is obliged to do with all inflexible sounds, force the uterus to conform to the curve of the Sound, by which great injury may be inflicted on the uterus. From a point five inches distant from its distal or uterine extremity, the Sound is flattened, and marked into one inch, half inch, and quarter inch spaces. This coil of wire, with a button at each end, is four inches in length, corresponding with the flattened and numbered part of the instrument, so that when the coil is pushed forward to the figure one, which is four inches from the handle, the instrument shows one inch exposed above the distal extremity of the coil, so in drawing the coil back toward the handles it measures in quarters. You introduce the Sound into the uterus; then, in order to get its depth, you slide the coil so that the button on the distal extremity of it comes in contact with the cervix, when you have indicated, at the other extremity of the coil, the exact depth of the uterine cavity. In the same way you can measure the cervical canal and tell, in case of hypertrophic elongation or enlargement, whether said elongation is in the neck, body, or in both. You have the same advantage in determining the exact point of flexion, constriction, or sights of tumors. It has a set-screw at the proximal extremity, to fix the coil at any point.

The coil does not interfere with the use of the Sound as an elevator, or for any other purpose. If it does, you may remove, for the time being, the coil entirely.

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The only Sounds made for the purpose of measuring the uterus, to my knowledge, is one of French manufacture, giving the measure in French, the other is by Dr. Giddings, of Boston. They are both inflexible, the latter having a narrow strip of iron or steel, extending from one button to the other. The objections to these instruments are:—

First.—In the former, the French measure, and in both, inflexibility.

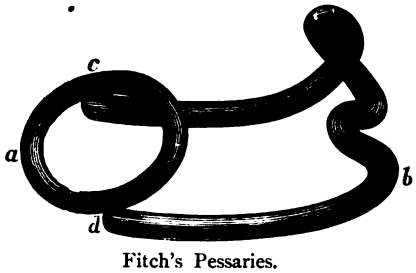
Second,—That while my coil follows the curve of the Sound completely, Giddings's strip of iron strikes across the curve of the Sound, making the chord of an arc, giving, in consequence, an imperfect measurement.

My Sound has been manufactured by Degenhardt, Bliss, & Torry, and E. H. Sargent. The greatest difficulty in their manufacture is in obtaining wire, for the coil, sufficiently hard to retain its elasticity. This difficulty, so far, has only been overcome by Mr. Sargent, cor. Sixteenth Street and Wabash Avenue. With proper care, this instrument may be carried without repairs till worn out. Price, $2.50.

Gentlemen,—I here present you with a Uterine Pessary, and modifications of Smith's and Hodges', of my own invention, designed for the treatment of subsidence, prolapsus, procidentia, retro and lateral versions of the uterus.

Fig. 1.

Fig. 2.



Fitch's Pessaries.

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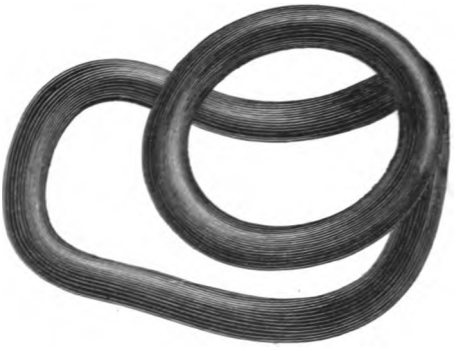
Fig. 3.



Fitch's modication of Hodge.

My instrument, represented by fig. 1, consists of a ring, hinged at its centre to two side bars, terminating in a vulvar extremity, with a depression for the accommodation of the urethra, similar to Scattergood's and Noeggerath's instruments. On the under surface of the ring, just anterior to the hinge, is a stop, to prevent its tipping too far forward, in cases of short anterior lip, or deep posterior *cul-de-sac*. Fig. 2, represents a modification of Fig. 1, simply by having its inferior or vulvar extremity turned up, for the purpose of giving a greater pressing surface against the *rami pubes*. Fig. 3, represents the ring applied to Hodge's Pessary. It may be applied equally well to Smith's. Both these applications I have often made with advantage. The main improvement is in the application of the ring.

The advantages of these improvements will be more fully pointed out, in what follows:

The instruments most popular in this country, and, in fact, in all other countries, for the treatment and cure of these displacements, are those of Hodge and Smith, the former, until the past few years, reigning supreme; since which time, Smith's, which is a modification of the Hodge, has been rapidly gaining popular favor. The popularity of both instruments is well merited. But, allow me to say, that no one instrument will suit all cases, as Dr. Emmet justly says, each case of displacement requires a Pessary especially

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fitted to the peculiar conformation of the soft parts, and the degree of displacement. The success of a physician, in treating displacements, depends entirely on his capability of appreciating the individual peculiarities of each case, and his possession of the mechanical skill necessary to adapt the mechanical means used to these pecularities.

As a rule, if the patient is physically conscious that she is wearing a pessary, it either does not fit, or she is not in condition to wear one; it, therefore, does harm, and should be removed at once.

The objections to all these instruments (Hodge's, Smith's, Meigs', Scattergood's, Hewitt's, etc.), whose uterine extremities press alone at the posterior vaginal junction, are the following:

1st. The pressing surface is convex—the neck of the uterus is round or convex at the point of pressure, so that we get two convex surfaces coming together, and in consequence a small pressing surface, say ½ to ¾ of an inch in length and ¼ inch in width. In consequence, at this point, we often have irritation, abrasion, ulceration, and, perhaps, perforation.

2d. When this part is rendered exceedingly sensitive, by a previous inflammation, tumor, prolapsed ovary, or constitutional irritability, it will not be tolerated.

3d. We not unfrequently find the posterior vaginal wall attenuated, relaxed, and elongated, in which case, although you may have a Pessary extending nearly from the rami of the pubes to the sacrum, the weight of the uterus, with or without super-imposed pressure, will drag the vaginal wall over the end of the uterine extremity of the instrument, so that the uterus becomes again completely prolapsed; these cases are not presumptive or hypothetical, for I have often seen them, and so have others of my acquaintances, in the profession.

4th. On account of the unequal or irregular distribution or development of the soft parts on the inner surface of the *rami pubes*,—the greater lateral diameter of the vagina, as it approaches the uterus, and the lateral course of the rectum,

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as it passes the cervix, renders the instrument liable to turn diagonally if not entirely across the vagina, especially when the rectum is filled with fecal matter.

5th. An obtuse angle, or broadly arched condition of the arch of the pubes, occasionally fails to give any support to the inferior extremity of the instrument, so that on straining at stool, violent coughing or laughing, the instrument is liable to be expelled, or to protrude so far as to necessitate its removal.

These objections are mostly, if not entirely, overcome by my instrument and modifications.

1st. It will readily be seen that the ring entirely encircling the cervix conforms to the parts most perfectly, and the pressure is on the entire circumference of the ring, which presents from six to ten times more surface for pressure than the instruments referred to.

2d. By shortening the instrument, the entire pressure may be thrown upon the anterior lip or surface of the cervix, which, according to my observation, is much less sensitive, in a physiological condition, than the posterior surface—probably on account of the proximity of the peritoneum in the *cul-de-sac* of Douglas.

3d. The elongation of the posterior vaginal wall is exceedingly common, and that this instrument would entirely overcome this difficulty was the first exclamation of Dr. H. Webster Jones, of Chicago, on seeing it. An instance of this kind has come to my notice within the past week, in a patient from the interior of this State. She had been, for years, a sufferer from prolapsus, with an immensely dilated vagina, for the relief of which she had tried many Pessaries, and other methods of treatment, without relief. I found her wearing, with much suffering, one of Babcock's supporters and pessaries, and the cup one-third filled with a thick sebacious secretion.

4th. The *cervix uteri*, setting into the ring as it does, is held central, by the tension of the broad ligaments. If the uterine extremity does not become displaced, the vulvar extremity

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will not, usually. Again, in fig. 2, we have the instrument bent in such a manner as to be held more or less firmly by the urethra, as the Pessary strikes this organ at a right angle, and hugs the pubes more closely.

5th. Objection is overcome by the instrument represented in figs. 2 and 3, for the reasons given above.

Further, allow me to suggest that the instrument represented in fig. 3, or Smith's, with the ring applied, are the only instruments in my hands that are perfect in the relief of subsidence, or the first degree of prolapsus.

The ring should be sufficiently large to allow of some swelling of the cervix during menstruation, without constricting the circulation.

These Pessaries are made of hard rubber, of about the size of Hodge's. They are made of different sizes, as to length and breadth. Should they be too long, they can easily be shortened.

You can obtain the rings separate, of any size, and have them riveted to any Hodge or Smith Pessary, or you can obtain them complete in one instrument.

The introduction of figs. 1 and 2 is much easier than that of Smith or Hodge. The instrument is passed two-thirds its length through the os vagina, when the ring should be extended by the introduction of the finger, and pushed directly on to the cervix. As I imagine much want of success in the use of Pessaries comes from a failure to fully replace the organ, before introducing the instrument, allow me to suggest that where much difficulty is experienced, the sound may be kept in the cavity of the uterus until the Pessary is *in situ*.

Dr. Cooke.—I wish to express my pleasure with the manner in which Dr. Fitch has told us of these improvements in pessaries. I think we have reason to comprehend that he is from Chicago. The profession of Chicago and the women of Chicago, have become conversant with all these modifications to which the Doctor has referred. We, in the country, get the impression that the percentage of cases demanding all these careful examinations is not as great in the country as in the city. It is my experience, that very rarely, in a town like that in which I live, is there a case of that kind. A few persons are under treatment in the hands of the excellent physicians of Chicago; and I recollect three or

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four cases that I am quite confident are not, and never have been, suffering from uterine disease; and yet they have paid repeated visits to Chicago for treatment for such ailments. And I hesitate not to say that there is a demoralization in cities for which the profession is responsible.

Dr. Edgar.—We come here to learn. I have had patients with prolapsus, and I could not relieve them with any of these traps, or any other traps I could devise; and I notice a good deal of the ingenuity in the management of the disease comes, as the gentleman says, from Chicago. There is no jealousy towards Chicago at all. [Applause.] We are ready to learn. But troublesome cases are of this kind: early in life, the lady has had the misfortune to dress too tight; many of them have worn heavy skirts; the uterus is thus pulled down into the lower pelvis—pressed down; adhesions have taken place, and there it is, tied down. You cannot raise it with these things. You cannot relieve the case. These gentlemen come from centres of wisdom. You are sent for to relieve this state of things, and find out what is the matter; and you find the uterus is tied down so that you cannot get your finger behind it. There it is, against the rectum. I know, in time, these adhesions, resulting from inflammations, are absorbed in part, and relaxed a little, and by slow degrees you may succeed in getting the uterus up a little from its attachment. I have been applied to for advice, in such cases, over and over again, by physicians from the country, who have failed to help their patients. They suppose they do not understand the instrument, or do not get the right kind of instrument. No instrument, as I understand, will meet the case exactly. The patient, in all these cases, uses an appliance which takes hold of the uterus and makes a little lift on it for a time. This invention of Dr. Stevenson has been called a very foolish thing, a ridiculous thing, a worthless thing; and yet I have known ladies to wear them a few days, and say they would not do without them for a thousand dollars. What we need, is an instrument that will change the uterus a little, make a lift for a few days upon it, and then take it off; then push it again, and take it off; so that by degrees, you work it up. But if any gentleman has ever succeeded in curing these cases, I should like to hear it. It may be used to advantage, temporarily, it is true, and afford relief. An old, broken-down case of prolapsus, where many children have been born, and the vagina is greatly distended, may be benefited by an instrument of this kind. There are hundreds of women who go out washing, who are obliged to wear them. Of course, if yon can raise the uterus off the vagina, and let it be free to contract, you may hope for success.

Dr. Fitch.—Dr. Cooke thinks that the women of Chicago are becoming demoralized, and are running wild upon the subject of uterine disease and displacements, and that the profession is responsible for it. This is indeed a grave charge—a charge that I am satisfied, with due deference to Dr. Cooke, is untrue. If there is a fault with the profession anywhere, and in any way, it is with the generality of physicians throughout the country, because they do not give sufficient attention to this class of diseases; for I am sure, if they had given the subject as much time and study, together with the experience, that I have had, and many others have had, that they would not enter the verdict which Dr. Cooke has. I could, if time would permit, relate a large number of cases of serious disease,

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and especially of uterine displacements, that have come to me from physicians throughout the country, which have not been recognized by them at all. Experience demonstrates the value of these instruments, most clearly and positively.

With regard to the objections to the use of these instruments, urged by Dr. Edgar, *viz.:* that in most of these cases of displacements there are strong adhesions, fixing the uterus so that the displacement cannot be corrected. I will say, that in those cases which have come under my observation, there is not one in fifty—no, not one in a hundred—which prevent the replacement and retention of the uterus in its proper position. We are liable to be deceived. Many cases are so fixed, from long-continued displacement and impaction, that we conclude too readily and without sufficient trial, that adhesions exist. Again, we have cases of impaction, during the early months of pregnancy, which appear adherent, and are not. Again, I believe that many, if not most, of our cases of "habitual abortions" are due to displacements. A case or two in point: about ten years ago, I was called to treat a case of threatened abortion, in a lady boarding at a hotel in Chicago. She was in the fourth month of utero-gestation. She informed me that she had miscarried several times before, under like circumstances. On examination, I found the uterus completely retroverted and seemingly fixed. On obtaining the history, I found that she had been suffering from displacement for years, and at various times had suffered from pelvic pain and symptoms of pelvic inflammations. I concluded, therefore, after reasonable trial to reduce, that adhesions were present, and reduction would be impossible. I treated her on the usual plan for preventing abortions, and in the course of a week, she was about the house—yet feeling quite feeble. On making my last call, I found her in terrific labor pains, and raising the house with her screaming and crying. The uterus more displaced than before; and at every expulsive pain or effort, the *fundus uteri* was forced down still nearer the vulva, and in consequence the *os uteri* was forced upward and forward against the pubes and *bas-fond* of the bladder.

In order to quiet her, and prevent her screaming, I gave her chloroform to perfect anæsthesia, I then made an effort to carry the fundus up by the promontory of the sacrum, with my finger, knowing, as I did, that the completion of labor was improbable, if not impossible, whilst the uterus was so displaced; my efforts were soon rewarded with complete success, the uterus going home with a decided thug. Labor was completed in a few minutes, and "all was well" with my patient.

A patient came to me from the interior of this State with the following history: she had had three miscarriages, always aborting in the fourth month—her health had been poor; she was thin and emaciated, and had suffered from all the symptoms of displacement; she was then about the end of the third month of pregnancy, and, having some threatenings of miscarriage, she came to me to see if I could not do something to prevent this oft-repeated and much-lamented accident. On examination, I found the uterus retroverted—a condition which she nor her physician had ever suspected. I at once saw a sufficient cause, in my own estimation, for her previous abortions. I informed her husband that unless the uterus was restored to, and retained in, its proper place, the abortion would be repeated, but if these objects could be accomplished, she would probably go to her full time, and, by proper care after her confinement,

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would be cured of her displacement and her habitual miscarrying. The object of reduction was easily accomplished, and a Hodge closed-bar pessary was introduced, with instructions to have it removed at the end of the fifth month, and to keep her bed from three to four weeks after confinement, to allow perfect involution to be accomplished before assuming the upright position. My instructions were faithfully carried out, and the result was a full-time confinement and a complete cure of the displacement.

This case is reported as a type of a large class of cases existing throughout the country, whose trouble is usually attributed to habit or weakness, which weakness, in the majority of cases, is the result of the dislocation. This case is not the only one of the kind that has come under my management, for their number is not a few.

With regard to the distension of the vagina, of which Dr. Edgar speaks: I would most respectfully assert that my pessary, nor that of Hodge, Smith, Scattergood, Hewitt, etc., does not, or should not, distend the vagina. It is a rule I have adopted that the vaginal walls should not be made tense, but should be lax, and only distended, if at all, in a longitudinal direction — there is no distension laterally; the vaginal wall is relieved of its support of the uterus; there is a relaxation of the ligaments, which have been stretched out of their normal position for the time being. Then, by the administration of constitutional treatment, invigorating treatment, exercise in the open air, etc., the cure may be made permanent. It is better to strengthen patients in this way than to place them upon their backs or faces and keep them there from six to twelve months. The idea of distension (with due deference to Dr. Edgar,) is absurd. I do not allow the instrument to distend the vagina—the pressure comes upon the ring. If a physician places the pessary so as to distend the vagina, it shows that he does not know how to fit a pessary. It is from this cause that these instruments come into disrepute—they are not properly fitted. A gentleman once came to me and wanted to know what size and kind of pessary he ought to buy. He thought if he obtained the right size he could fit every woman in his neighborhood. But they require to be different in almost every case.

It will be inferred that I use, exclusively, *intra-vaginal* pessaries. This is true—I never use *intra-uterine* or vaginal stems. The first are dangerous, the second inconvenient, annoying, and unphilosophical.

Dr. Frazier.— I have found a case in which the ordinary Hodge pessary gives undue pressure upon the rami of the pubes.

Dr. Fitch.—If it presses upon the rami of the pubes, it is too long, or of improper shape. In using any of these instruments, the tight clothing should be removed, and all skirts should be carried upon the shoulders, by suspenders, skirt-supporter, or waist. All these things must be attended to. The uterus should be properly restored and kept restored until the proper instrument is placed to hold it.

Dr. Cole.—Excessive sexual intercouse and the prevention of conception—these are the great causes of these evils, and it is the duty of the profession to endeavor to prevent these evils.

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Dr. Cooke asked Dr. Fitch if he was in the habit of making these examinations in cases of virgins, and stated that he thought the practice demoralizing.

Dr. Fitch.—I admit all the Doctor says is true. These cases are matters for the frequent exercise of good judgment. There are cases where you are well satisfied that the origin of the whole difficulty is in the uterus, and it is impossible to remedy it without examination. I should certainly advise examination then, and use every effort in my power to relieve any local trouble. I can refer you to any number of cases to demonstrate the value of these examinations and instruments. Last year I had a case of chorea, (some members present are familiar with the case); the lady was unmarried. The case, one of anteversion, was entirely cured, so as to enable her to earn her living very comfortably in the course of a few weeks. In that case, and in all similar cases, I would consider it justifiable.

Dr. Prince.—Looking over Dr. Fitch's instruments, the other day, I received an invitation from him to show some things that he did not bring. I regret not having heard the report. I will occupy your attention just a moment, showing two or three appliances not in his collection. The first thing I wish to call your attention to is a modification of Sims' speculum, by Erich, of Baltimore. I have used it for several years. Its peculiarity consists in its matter of retention. We have here the ordinary Sims speculum, with the Erich improvement. The point I wish to call your attention to is the method of retention, by which an assistant is avoided. A lever is applied, and a strap is then placed over the left shoulder, and comes down and is attached to the extremity of the lever, so that it is impossible for it to slide. The retractor, in this form, is attached to the blade of the instrument.

Dr. Prince also exhibited the Burns speculum, a skeleton instrument, also a cunningly-devised instrument, controlled with tapes and shoe-strings, which he called the step-ladder pessary.

The President.—The next thing in order is the report on Obstetrics, by Dr. Rood.

Dr. Peirce submitted an abstract of the report, as follows:

REPORT ON OBSTETRICS.

By J. B. ROOD, M.D., Lemont.

At the last meeting of the State Medical Society, I had the honor of being appointed on the Committee on Obstetrics, but not being the Chairman, I had nearly completed a supplementary report on Cephalic Version, when I received a

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note from the Secretary Dr. T. D. Fitch, asking me if I could make a report on Obstetrics, as the Chairman on Obstetrics had just informed him that it would be impossible for him to make a report this year.

Many questions have occupied the medical world since the last report to this Society on Obstetrics, a correct reply to which would prove of immense value, not only to the doctor, but to those who select him to guide them through the perilous ways by which they are surrounded.

I shall endeavor to present them to your consideration as briefly as possible, giving the views of the best and most experienced of the profession, rather than my own, with a reference which will enable my hearers to study in detail these views, as they were originally presented to the public.

POST-PARTUM HEMORRHAGE.—Dr. Ewing Whittle maintains that post-partum hemorrhage may be diagnosed beforehand by the peculiar pains during parturition, and, being diagnosed, may be prevented. The peculiarity of these pains is, that they are "strong and quick;" they do not gradually culminate in a strong pain and subside again, but they are sharp, quick, and cease almost suddenly, and the intervals between the pains are long in proportion to the length of the pains. In an ordinary case, for one or two hours before the completion of labor, the intervals will average about three times the length of the pains; *i. e.*, if the pains last each from fifty to sixty seconds, the intervals will average a little less than three minutes. Now, if the pains last each only from fifty to sixty seconds, and are of the sharp character I have described, which intervals, lasting five or six minutes, though the labor may proceed steadily and the head advance a little with each pain, you will be sure to have hemorrhage after delivery is completed, unless you anticipate it by altering the character of the pains, in making them longer, and the intervals shorter. It is very easy to understand how this comes to be the case: the uterus is contracting sharply, and then becoming fully relaxed. After the child is born, a relaxation follows, one or two sharp pains expel the placenta

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with a gush of blood, and the uterus again relaxes, continuing the same tendency which existed before the delivery of the child.—*Brit. Med. Jour.*, Sept., 1873.

The treatment of post-partum hemorrhage, perhaps more than any other accident, claims the attention and arouses the interest of the medical practitioner. When it occurs, his nerve, energies, and resources are strained to their utmost limits, and, consequently, an indelible impression is produced.

At all medical meetings, when this subject is brought forward, animated discussions invariably follow. Every one wishes to ventilate his experience, and to learn something new and potent upon which he may rely when next he has the misfortune to battle with a case. This prevalent feeling was, probably, the cause why the profession seized so greedily upon the percloride of iron remedy. A weapon with which death, in its most appalling form, could be conquered, was what every obstetrician and general practitioner wanted. Many think of it favorably, while others have seen peritonitis and death after its use.

Dr. W. S. Playfair, London, is fully satisfied of the beneficial effects of injections of percloride of iron.

Dr. H. Smith, London, has employed this remedy. He used one part to eight of water. He believes that this form of hemorrhage, after complete uterine contraction, is arterial. He believes that the iron does not produce contraction, by coagulation, blocking up the arteries, and that it cannot be regarded as innocuous.

Dr. Graily Hewitt has seen peritonitis and death after its use.

Dr. Murray has succeeded in ten cases where other means failed.

Dr. Braxton Hick has never seen any serious result follow its use. He had employed it a great many times.

Dr. G. T. Geum objects to the iron as hurtful. He gives ergot early, as it requires at least twenty minutes to act.

Dr. T. Snow Beck, London, opposes the iron injections as

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highly injurious. He urges cold to the uterine cavity. He asks: "Is any one justified in having recourse to means which have such serious results, when other remedies, which have never been noticed to be followed by such consequences, may be employed to induce what was required—'contraction of the gravid uterus?'"

Dr. Barnes insists that it did cause contraction of the uterus and closure of the arteries, and that effectually. He had often had his hand in the flaccid, bleeding uterus, and felt the inner surface contracting, corrugating, crinkling under the contact of the iron as it flowed, stopping the bleeding and expelling the hand. The cases reported as having died after its use were either the result of the already exhausted state, or of septicæmia, which was certainly not caused by the iron. Flooding predisposed powerfully to septicæmic fever. This frequently occurred without the use of a styptic. Those who had seen it used once condemned it, while it was emphatically approved by those whose experience had been greatest. He was convinced that he had thus saved many lives. He would continue its use, and urge it on others.

My conclusions, from a limited experience of the use of this method, and from a careful review of the testimony adduced, are in favor of its use, when all ordinary means for inducing permanent contraction of the uterus have failed.

INJECTIONS OF HOT WATER AS A MEANS OF ARRESTING UTERINE HEMORRHAGE.—Dr. Windelbund states that his attention was called, by the perusal of an article by an American practitioner, to the effects of injections of hot water as a means of arresting hemorrhage from the uterus. In a case of abortion with alarming hemorrhage, for the restraint of which ergot and cold-water injections had failed, Dr. Windelbund injected water at about 100° Fahr. Within a short time, or rather at the moment of entrance of the fluid, such energetic contraction of the uterus took place that the ovum, which could but just be felt within the open os uteri, was ejected with its membranes from the uterus in a quarter of an hour. For some days he repeated the injec-

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tions, when there was any indication of bleeding, and afterwards continued them at a lukewarm temperature, until involution of the uterus was complete.

He says that he has used injections of hot water with the best results in a number of cases which have occurred in his practice during the last year, including twenty-one cases of abortion, two cases of severe hemorrhage from placenta previa, cases of hemorrhage attending fibroid and other tumors of the uterus, cases of carcinoma, of post-partum hemorrhage, of profuse menstruation, etc. He is convinced that the hot water exerts a far more energetic action on the muscular structure of the uterus than cold water, either alone or with astringent remedies in solution.—*Brit. Med. Jour.*, Feb. 13, 1875.

ELECTRO-MAGNETIC CURRENT IN POST-PARTUM HEMORRHAGE.—Two cases are reported by Dr. Chas. W. Earle, of Chicago, one occurring in his practice, and one in Dr. I. N. Danforth's. I can not do better than to give you his report in his case:

Mrs. M., an American lady living on Sangamon Street, in this city, summoned me, December 9, 1871, to attend her in confinement. I found her suffering from the usual cutting and annoying pains of the first stage, and in every respect in a fair condition, except a want of power in the pains.

On the morning of the 10th, Dr. Byford visited her (she having been under his treatment for uterine difficulty for some months previous to her pregnancy), and, excepting the uterine inertia spoken of above, expressed himself satisfied with her condition. He advised, however, if the labor was not concluded in a few hours, the use of forceps. About 4 P.M., the uterus seeming powerless to complete the work, and, some twenty hours from the commencement of her labor, she was delivered, without any trouble, by the use of instruments.

As is my custom, a half-drachm dose of fluid extract of ergot was administered, and the after-birth complete was delivered in about fifteen minutes.

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Without moving her from the position she was placed in for instrumental delivery, I sat down by the bedside to watch the condition of the uterus for one hour before putting on the binder and taking my departure. There had been such inertia of the womb during the entire labor that I was fearful of what my patient very soon experienced.

Without any premonition whatever, the uterus ceased its contraction, and a stream of blood, apparently as large as half my arm, came pouring from the vagina.

I immediately introduced my right hand to the fundus of the womb, and, with my left, tried to compress the descending aorta, giving orders at the same time to the attendants to administer more ergot, to lower the patient's head, apply cold water to the abdomen, and procure a piece of ice for inserting into the uterus. All this was done rapidly, and in much better order than is usual in such cases. But what a change there was in my patient! In two minutes she had changed, from a joyous and happy one, to an ex-sanguined, bloodless and pulseless state! Apparently, she was moribund.

In addition to what I had already done, I gave what stimulants could be found in the house; and keeping my hands in the position noted above, as the most effective way of stopping the largest amount of blood, sent immediately for Dr. I. N. Danforth, who lived in the immediate vicinity. He came forthwith, and, relieving me from my most fatiguing position, suggested port-wine and carb. ammonia as the stimulant. Ergot had been given freely; ice, externally and internally, had been used; compression resorted to; stimulants and nourishing broths administered; but the hemorrhage did not cease. Nothing, up to this time, had produced a good, strong, continuous contraction of the uterus.

Dr. Danforth now advised electricity, and in a very few minutes a battery was at hand; and placing one pole over the sacrum, and the other over the uterus, the current was commenced. The effect was instantaneous, and almost marvelous. The uterus *contracted firmly;* the *hemorrhage ceased*

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immediately; and as long as the electrical current was continued, the uterine tumor remained hard, and of proper size. It was necessary, however, to keep up the current for some time; for, as soon as we ceased using the electricity, the womb softened, and blood commenced to flow. It was above twelve hours before we ceased using the instrument altogether. At this time, the adynamic condition of the entire system, and uterus, especially, seemed to be overcome, and we felt safe in leaving our patient.

The lady was saved, and made a very comfortable convalesence. Electricity certainly contributed largely to the favorable result.—*Med. Examiner*, Feb. 1st, 1874.

Dr. Robert Storrs, of Doncaster, reports a case which was attended with puerperal convulsions. The convulsions came on during the first stage of labor, and could only be checked by keeping her under the influence of chloroform for some time. Failure of uterine action occurred before the os uteri was fully dilated; but, as it was sufficiently dilatable, the forceps was introduced, and delivery accomplished. Still, the uterus did not contract, and after the placenta was removed, hemorrhage could only be restrained by keeping the hand within the uterus. Grasping and kneading the uterus, cold affusion externally, and injections of cold water per vaginum produced no effect. A dilute solution of percloride of iron was freely injected into the uterus, but proved ineffectual. A battery was then used, one pole being applied over the abdominal walls directly over the fundus, by means of a curved plate of copper, and the other placed in the cervix. Almost immediately *firm contraction took place*, and when the current was discontinued, the uterus remained securely contracted. The patient made a good recovery.—*Lancet*, Sept. 6th, 1873.

DIAGNOSIS OF SEX IN UTERO.—A paper read before the Chicago Medical Society, July 20th, 1874, gives the result of the observations of Dr. Strong and Dr. Steele in 100 cases, from which they deduced the following observations: First—In the majority of cases male fœtal hearts are slower

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than female. Second—132 fœtal pulsations per minute is the average which constitutes a dividing line between the sexes. Below this, sixty-eight and four-sevenths per cent. are males, twenty per cent. are females, eleven and three-sevenths per cent. are doubtful. Above this, fifty-three and one-third per cent. are females, twenty-six and two-thirds per cent. are males, twenty per cent. doubtful. Third—The most accurate observations are made during the last four weeks of gestation. Fourth—The rapidity of the heart's action is increased in proportion to the feebleness of the fœtus. Fifth—Calcareous, or fatty degeneration of the placenta, renders the pulsations feeble and irregular. Sixth—In some cases it would be possible to diagnose diseased conditions of the placenta from careful observations of the fœtal heart.

Dr. Braxton Hicks says, in an address before the British Medical Association, in the Autumn of 1873:

The interesting fact that the sex of the child can, in a larger proportion of cases, be ascertained by auscultation during pregnancy has also lately been made known. When the fœtal pulsations number 144 per minute, the child is probably a female; when they are 124 per minute, probably a male. It is said that a little variation from 124 upward, and from 144 downward, will not alter the diagnosis, provided auscultation be practiced towards the end of pregnancy.

Steinbach was correct in forty-five out of fifty-seven cases which he examined; while Frankenhauser was right in all the fifty cases which he examined with a view to determine the sex of the child.—*Brit. Med. Jour.*, August, 1873.

Dr. W. E. Ford, of New York, gives the result of eighty observations. Basis—144 pulsations for a female fœtus; 124 for a male. Sixty-two were accurately recorded. Of 24 females, the average pulsations per minute were 143; highest, 160; lowest, 120. Males, 38; average, 142½; highest, 170; lowest, 110. Conclusions: Pulsations are no indication of sex.—*New York Med. Record*, Dec. 1st, 1873.

Dr. F. C. Wilson, of Louisville, from 109 observations, tabulates his results thus:

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110 to 125, almost certainly male.

125 to 130, probably male.

130 to 134, doubtful; chances in favor of male.

134 to 138, doubtful; chances in favor of female.

138 to 143, probably female.

143 to 170, almost certainly female.—*Amer. Practitioner*, Dec., 1873.

CHLORAL HYDRATE IN LABOR.—Dr. Franco-Mazorra observes that the application of chloral in obstetrics has given rise to serious studies, many of which have been collected by the author, in addition to stating his own experience. The author divides his work into two chapters. In the first, he treats of the administration of chloral in natural labors, and in cases of rigidity of the uterine neck, which are but a variety. The second heading is consecrated to the study of the influence of chloral in epileptic attacks. In each of these headings are collected the observations relating to each point, remitting those in foreign parts, and strongly insisting on his personal experiences, of which he has been able to analyze the details. The total number of observations is fifty, and the following conclusions have been arrived at:

1st. The hydrate of chloral ought to be pure, otherwise it may be dangerous to use it, or, at any rate, it may be without any true therapeutic value.

2d. In women, during labor, chloral firstly acts as a calmative; then produces sleep, and considerably diminishes suffering.

3d. The uterine contractions continue to take place during the sleep caused by chloral. They are shorter, less frequent, and pretty energetic. In general, the duration of the labor is shortened by the influence of this agent.

4th. The anæsthesia produced by chloral may be sufficiently complete, and make the woman quite unconscious, even during the expulsive period, and a certain time after birth.

5th. Given in small doses, chloral sometimes causes agitation, which ceases when the dose is increased.

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6th. The remedy may be given at all periods of labor.

In a lecture recently delivered by Dr. Playfair, he stated that chloroform, as an anæsthetic during labor, has a tendency to do more than is desired; that while it lessens the pain it, at the same time, lessens the strength of the uterine contractions, thus prolonging the labor. He likewise objects to its use, on the ground of its predisposing to post-partum hemorrhage.

Chloral, on the other hand, he regards as superior, in many respects, to chloroform, notably in the fact, that while in a marked degree it diminishes their painfulness, it does not seem to lessen the frequency or strength of the pains.

Our author regards it as a great recommendation, that chloral is applicable at a period when we would not think of administering chloroform, towards the termination of the first stage of labor, before the complete dilatation of the os, and when the sharp, grinding pains produce more suffering, and are less easily borne than the more forcing pains of a later stage. In a type of labor very common, especially in women of a highly-developed nervous organization, such as constitute a large proportion of our patients among the higher classes, in which I have found it to be especially valuable. In these, before the rupture of the membranes, and the complete dilatation of the cervix, the pains are very severe, but short and ineffective, chiefly limited to the back, and producing little or no effects in dilating the os. In these cases he has found chloral especially valuable. In this class of cases, it has been the custom to administer an opiate in sufficient quantities to produce sleep, but the disadvantage attending this plan is, that the labor is suspended and time lost. If, however, chloral be employed instead of the opiate, the same refreshing sleep will be obtained, without any suspension of the pains or the protraction of the labor. The character of the contractions, too, will be altered; they will become steady and useful. Also, in cases where there is rigidity and spasm of the cervix, or where the latter is thin and rigid, with a sharp edge, the chloral is exceedingly use-

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ful. Soon after it has taken effect, the author has observed, not unfrequently, a thin os, which had remained unaltered in character for many hours, dilate rapidly, far more so than when chloroform is inhaled for this indication.

The way he gives the drug is as follows: He orders a six-ounce mixture, containing a drachm and a-half of chloral. When the pains are becoming severe, which is not usual until the first stage of labor is approaching completion, he gives one-sixth part of the mixture; *i. e.*, fifteen grains. This he repeats in about twenty minutes. Usually, after the second dose, enough has been taken to bring the patient under the influence of the remedy sufficiently. The subsequent administration must be regulated by its effects. If the patient be drowsy and relieved, a third dose need not be given for an hour, and then half the quantity will probably be sufficient to keep the patient in a somnolent condition. It is seldom necessary to give more than a third dose, and the author has never given more than a drachm of the chloral in an entire labor. By lessening the quantity after the second dose, and increasing the intervals between their administration, a full and sufficient effect can be kept up for many hours. It need not at all interfere with the use of chloroform. When the pains get strong and forcing, that may be inhaled just as if chloral had not been given.—*London Lancet*, Feb. 21st, 1874.

FORCEPS.—Dr. More, of England, maintains that obedience to the rule of the older teachers, "that the use of the forceps should not be had recourse to so long as the fœtus makes *any* advance," is fraught with evil, both to the mother and child. He says: "The timely use of the forceps, shortening the second stage of labor, is the great practical improvement in recent midwifery." His statistics show that the assisted cases get about sooner, and feel better than those left to nature. He concludes by enumerating the classes of cases in which he thinks it justifiable and obligatory to use the forceps, as follows: In all cases where the first stage is completed, and the head stationary. Here, he would not wait longer than two hours. In cases where, though the

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head is advancing, the labor is tedious, from the fact of the pains being too weak or having almost ceased; in cases where the pains are stronger than is warranted by the advance made; in hemorrhage, if excessive; in some cases of convulsions (why not all?); in cases favorable for operation, where the patient is very desponding or impatient; in cases of occipito-posterior positions, unless the labor is advancing quickly; the second twin, if a head presentation, and not advancing quickly after the first; to save time, if the case is favorable, to relieve the woman and himself from work.—*Lancet*, Oct. 25th, 1873.

Dr. Hugh Miller, Glasgow, applies the forceps in tedious labor from debility. This is preferable to ergot. It prevents exhaustion of the uterus, and hence prevents flooding.—*Brit. Med. Jour.*, Aug., 1873.

Dr. McDonald concludes, that it is exceedingly doubtful if premature labor ought never to be employed in contracted pelvis. Turning does not present any advantage to the mother over the long forceps in contracted flat-pelvis, and is more dangerous to the child. It is entirely unsuitable when the contraction is general, and more dangerous to the mother than long forceps or any of the higher operations. In contracted pelvis, it is safer to let the case go to term—then see what nature can do. Next the forceps, if there is room; then craniotomy, or Cæsarean section.

Dr. Matthews Duncan agreed mostly. He referred to the unsatisfactory nature of recorded cases generally. In pelvis measurements, there were so many sources of error, cases of considerable contraction being rare. Frequently, *post-mortems* revealed these errors. A prognosis from the history of a first labor was very misleading, generally. Even in contraction, down to near three inches, he was much encouraged by recent German authors. He did not wish to take very positive grounds, but regarded the forceps as safer in general, both for mother and child. My own experience with the forceps leads me to this conclusion: That the fault of American midwifery is the too infrequent use of the forceps.

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CEPHALIC VERSION.—April 12th, 1870, I was called to see Mrs. F——, in consultation with Dr. Wm. Dougall. Some twelve hours previous, the membranes had ruptured, and the right arm had prolapsed. I advised him to first attempt cephalic version, and if he failed in this, to resort to podalic version. I gave her chloroform, and he made the attempt to turn, but failed. We then exchanged places. I succeeded in carrying the arm up to its original position across the breast. I then applied my fingers to the top of the shoulder, with the thumb in the axilla, so to give me command of the chest, and enable me to apply a degree of lateral force. While my left hand was applied to the abdomen of the mother, over the breech of the fœtus, with my right I made lateral pressure upon the shoulder, in such a way, as to give to the body of the fœtus a curvilinear movement; my left hand at the same time making pressure, with the view of dislodging, as it were, the breech, and moving it towards the centre of the uterine cavity. This being unsuccessful, I then passed my left hand into the uterus, and carried it up until I passed my fingers into the occiput of the child's head; with my right I now made pressure over the abdomen of the mother. In this way, I succeeded in bringing the head down, and making a perfectly natural vertex presentation. The labor was concluded in about fifteen minutes; the child lived, and the mother made a good recovery. I have since had two other cases of arm presentations in cases being attended by an ignorant midwife. In those cases I succeeded by cephalic version. The children lived, and the mothers made as good convalescence as they would, had they had natural presentations.

On motion, it was referred to the Committee on Publication.

Dr. Ingals presented the report of the Committee on Necrology, saying, by way of preface:—

In relation to the report on Necrology, we have but two individuals to notice—Dr. Young, of Aurora, and Dr. Blaney, of Chicago.

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If there have been other deaths the Committee has not been apprised of them. The death of Dr. Young is reported by Dr. Hard, of Aurora. The facts in Dr. Blaney's life were presented by Mrs. Blaney—the estimate of him I have made from my own knowledge of the man, as I had the best of opportunities for knowing him. When I went to Chicago in 1845, he was a Professor in Rush Medical College. I labored with him a good many years in the College, and had good opportunities of knowing him. The report is as follows:—

REPORT OF THE COMMITTEE ON NECROLOGY.

In compliance with the duties prescribed to us, the Committee on Necrology ask leave to present the following. While we are not without material for our sad report, yet the large number of our Society spared in health and strength through the mutations of the year gone past, gives occasion for thanksgiving that a kind Providence has placed its protecting mark on the lintels and door-posts of so many of our homes:

DELOS W. YOUNG, M.D., was born in Johnstown, N.Y., January 29, 1829. His parents were of German descent, and spoke the German language in the family.

While but a boy, he removed with his parents to Illinois. In the year 1848, he entered the office of Prof. A. Hard, of Aurora, Ill., with whom he pursued the study of medicine and surgery until he graduated. He first attended college at LaPorte, Ind., then a rival of Rush Medical College, but his second course was at Keokuk, Iowa, where he graduated in the spring of 1851, from which time he successfully practised his profession in Aurora, Ill., and the surrounding country. At the breaking out of the late war, he first entered the army as Asst.-Surgeon of the 13th Illinois Infantry, which position he soon resigned, and assisted to organize the 36th Regiment Illinois Infantry, of which regiment he was appointed Surgeon. After nearly two years service with that regiment, he resigned, and returned to the practice of his profession in Aurora.

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In 1870, he received the *ad eundem* degree of M.D. from the Chicago Medical College. He was active in organizing both local and State medical societies; was elected Vice-President of the Illinois State Medical Society in 1871, and President in 1872. As a physician and surgeon he was zealous, hard-working, and successful, possessing in a high degree the quality of perseverance. Always hopeful, and expecting the best results, he inspired his patients with a like hopefulness. He was in the fullest sense a successful self-made physician.

He died at Aurora, Ill., of scirrhus of the pyloric portion of the stomach, Sept. 8, 1874, leaving a wife and one married daughter. In his death, the profession has lost one of its most earnest and successful members, and the community, an energetic and enterprising citizen.

JAMES V. Z. BLANEY was born in New Castle, Del., May 1, 1820. He inherited a rank in society that gave him the converse of intelligent and cultivated people, and the opportunities for a thorough primary education. He graduated from Princeton College, N. J., when but eighteen years of age. Determining to devote his life to medicine and its allied sciences, he, after his graduation at Princeton, pursued his medical studies in the hospitals and medical schools of Philadelphia, and on reaching his majority he received his medical degree from the Jefferson Medical College of that city.

The science of chemistry offering to his mind peculiar fascinations, he prosecuted its study in the laboratory of Prof. Henry, now of the Smithsonian Institute, whose assistant he afterwards became.

Having, by careful preparatory study and instruction, fitted himself to enter on the practical duties of life, the question presented itself: Where should he select the field for his labors? His intuitive eye marked the course of empire westward, and when twenty-two years old we find him setting out to explore the Valley of the Mississippi, then an imperfectly known land of promise. He made his way down the Ohio, and during the winter of 1842-3 he was in St. Louis, and for

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a time was in the government service in the medical department at Jefferson Barracks, near that city.

Leaving there, he extended his observations as far north as St. Paul, Minn., but finally, in 1843, the prospective future of Chicago induced him to fix on it as his permanent home. Here he entered on the practice of his profession, and at once took rank, professionally, socially, and intellectually, with the first men of the city and State. He associated himself with Drs. Daniel Brainard, Austin Flint, Wm. B. Herrick, and others, in founding the Rush Medical College, with which institution he remained connected, as Trustee, Professor, or President, to the time of his death. He assisted to establish the *North-Western Medical Journal*, the earliest medical periodical in the North-west. He was its first editor, and always an able contributor to its pages. In 1857, he added to his public teaching in Rush Medical College, the Chair of Chemistry in the North-western University, at Evanston. In the infancy of his adopted city, he was a member of its Board of Education. Twenty-five years since, he was one of those who laid the foundations—deep, broad, and enduring, we trust—of the Illinois State Medical Society, being one of its charter members, and in 1870 he was elected its President.

In August, 1861, he entered the army, and continued in active service in the Medical Department, until after the close of the war of the Rebellion. He was appointed Medical Director and Inspector at Fortress Monroe, where he remained nearly two years. Prior to the battle of Winchester, he was a member of Gen. Sheridan's staff. He spent the evening before the battle in the General's company, and only by accident failed to participate in the famous ride of "twenty miles away." He had charge of the wounded in that engagement. Ordered to Chicago in 1864, he was made Medical Purveyor at this place, and in this capacity disbursed large sums of public money, in strict conformity with the honest integrity of his whole life. While in the army he reached the rank of Lieutenant-Colonel. After resigning his commission in the army, he continued, so far as his failing health would permit,

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his public teaching, the practise of his profession, and his labors in the laboratory, in analytical chemistry and metallurgy.

He was married in 1847, to Miss Clarissa Butler, daughter of the late Walter Butler, and niece of Benj. F. Butler, Attorney-General in the administration of President VanBuren, and at one time Secretary of War. Of their seven children, four still survive—two sons and two daughters. The elder of the sons, James R. Blaney, is devoting his life to chemical pursuits, in a manner not unworthy of his father.

In his mental organization, Dr. Blaney was remarkable for his quick intuition, clear perception, and adhesive memory. He took in the subject presented to his mind at a glance, seized its salient points, and fixed them indelibly on his mind. As a teacher, he was comprehensive, clear, and accurate. As a chemist, we are not aware that any one in the North-west pretended to be his peer, and it is certain that the public verdict always placed him first in rank. His natural qualities, not less than his medical attainments, peculiarly fitted him for the practise of his profession. His genial presence in the sick-room was always sustaining, and his knowledge of disease, and the proper use of therapeutic agents, rendered his ministrations to the sick particularly salutary.

In no place did he shine with more lustre than in general society. Here his mind sparkled like a diamond. His language was full and flexible; he abounded in anecdote and illustration; he was quick at repartee, and blending with all these the expression of his face, the grace and ease of his gestures, gave to his conversation an irresistible fascination. As a man, he was guileless, upright, generous, and sympathetic, and in whatever surroundings and experiences, always a gentleman. Nature, in his formation, seemed to have left out every acerb ingredient and discordant element, and Uncle Toby himself did not more completely embrace every animate creature in the kindness of his heart.

He died, after a protracted illness, at one o'clock A.M

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Friday, Dec. 11, 1874, at his residence, 464 Michigan Avenue, Chicago, aged 54 years 7 months and 10 days.

Holding as he did the highest rank in the Masonic Order, he was buried with Masonic ceremonies, on the following Sabbath, from the Fourth Presbyterian Church, with which himself and family were identified. The church edifice was crowded with his friends, who came as a last mark of respect to participate in his obsequies. Prof. Swing pronounced over his remains an eloquent discourse, eminently befitting the occasion.

It is not without emotion that we recall the names of Brainard, and Blaney, and Herrick — our early teachers — always our friends, now gone!

Such were the men who in this new land, in the face of great obstacles and privations, laid the foundations, not alone of medical teaching and medical practice, but of society itself. We are indebted to them more than we know, and we cannot do less than to lay at their tombs the tribute of our affectionate remembrance.

E. INGALS,
D. L. JEWETT,
C. V. ROCKWELL, } *Committee.*

On motion, it was referred to the Committee on Publication.

Dr. Haller, Chairman of the Committee on Nominations, submitted his amended report, saying:—

I would like to say this much—that we found it difficult to make out our report, from the fact that when we came to examine the list of members, some of the names were not found; and we found, also, the line not clearly drawn between the Standing and the Special Committees. We observed, in the last Proceedings, a good many Special Committees that were arranged with the Standing Committees. This accounts for our awkwardness, to some extent, in making the report.

The report was submitted, as follows:—

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REPORT OF THE NOMINATING COMMITTEE.

OFFICERS FOR THE ENSUING YEAR.

President—THOMAS D. WASHBURN, M.D., - - - - - Hillsboro.
First Vice-President—J. L. WHITE, M.D., - - - - - Bloomington.
Second Vice-President—JOHN WRIGHT, M.D., - - - - - Clinton.
Treasurer—JOHN H. HOLLISTER, M.D., - - - - - - Chicago.
Permanent-Secretary—T. DAVIS FITCH, M.D., - - - - - Chicago.
Assistant-Secretary—C. B. JOHNSON, M.D., - - - - - - Tolono.

STANDING COMMITTEES.

Board of Censors.

E. WENGER, M.D., Gilman,
E. INGALS, M.D., Chicago,
E. L. HERRIOTT, M.D., Grafton.

Committee of Arrangements.

S. H. BIRNEY, M.D., Urbana,
A. T. DARRAH, M.D., Tolono,
J. T. PEARMAN, M.D., Champaign.

Practical Medicine.

WM. MASSIE, M.D., Grand View,
D. L. JEWETT, M.D., Watseka,
J. W. FINK, M.D., Hillsboro.

Committee on Surgery.

MOSES GUNN, M.D., Chicago,
A. C. RANKIN, M.D., Loda,
JOHN G. HAYS, M.D., Paris.

Committte on Obstetrics.

M. W. WALTON, M.D., Ridott,
C. GOODBRAKE, M.D., Clinton,
D. E. FOOTE, M.D., Belvidere.

Committee on Drugs and Medicines.

J. H. ETHERIDGE, M.D., Chicago,
T. J. PITNER, M.D., Jacksonville,
H. H. HOOD, M.D., Litchfield.

Committee on Necrology,

G. W. ALBIN, M.D., Neoga,
WM M. CHAMBERS, M.D., Charleston
J. N. NIGLAS, M.D., Peoria.

Committeee on Ophthalmology.

E. L. HOLMES, M.D., Chicago.

Committee on Otology.

F. C. HOTZ, M.D., Chicago.

SPECIAL COMMITTEES.

Committee on Diseases of Children.

J. S. WILLIAMS, M.D., Otterville.

Committee on Medical Jurisprudence.

M. A. MCCLELLAN, M.D., Knoxville.

Committee on Dermatology.

J. N. HYDE, M.D., Chicago.

Committee on Progress in Physiology.

SARAH HACKETT STEVENSON, M.D., Chicago.

Committee on Idiocy.

C. T. WILBUR, M.D., Jacksonville.

Committee on Neurology.

WALTER HAY, M.D., Chicago.

Committee on Gynecology.

A. REEVES JACKSON, M.D., Chicago.

Committee on Hygiene.

JEHU LITTLE, M.D., Leroy.

Committee on Diagnosis and Extirpation of Tumors.

W. L. GOODELL, M.D., Effingham.

Committee on Empiricism.

J. F. TODD, M.D., Galva.

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Committee on Prudence in the Administration of Therapeutic Agents.
E. INGALS, M.D., Chicago.

Committee on Uterine Displacements.
T. DAVIS FITCH, M.D., Chicago.

Committee on Staphyloraphy.
DAVID PRINCE, M.D., Jacksonville.

Committee on Electro-Therapeutics.
PLYM S. HAYES, Chicago.

Place of Meeting—Urbana.

Dr. Prince.—I must decline the appointment on Galvano-Therapeutics. I have had that position for three years, and I am entitled to move out.

The report was, on motion, adopted.

Dr. Haller.—I move that Dr. Prince be excused from reporting on Galvano-Therapeutics.

Carried.

The Secretary reported the names of H. Z. Gill, and others, recommended for membership. They were duly elected members.

The following preamble and resolutions, in regard to the standing of medical officers in the army, were adopted:—

WHEREAS, The American Medical Association, at their last annual meeting, did appoint a committee to memorialize Congress on behalf of the Medical Corps of the army, therefore; be it resolved,

That we, the Medical Society of the State of Illinois, respectfully urge the Representatives in Congress from this State, to use their efforts in behalf of such legislation as will place the Medical Corps of the army on an equal footing with the officers of the other staff corps of the army, and of the Medical Corps of the navy.

And be it further Resolved, That the Secretary of this Society be instructed to transmit an official copy of this preamble and resolutions to each of the representatives in Congress from this State.

Dr. Prince nominated Dr. Plym S. Hayes, of Chicago, Committee on Electro-Therapeutics for next year.

The nomination was ratified.

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The Secretary read the report of Dr. H. A. Johnson, on Phthisis, as follows:

ANALYSIS OF 283 CASES OF PHTHISIS.

By H. A. JOHNSON, M.D.

Of 283 cases of Phthisis, 134 had a history of disease commencing in the right lung, and 149 cases commencing in the left lung, or about 47 per cent of all in the right, and 53 per cent in the left lung. In only two cases was the disease advanced, apparently, to the same extent in both sides. Of the 283 cases, the record gives the family history in 190 cases. Of these, 101 has a history of consumption in the family—father, mother, uncles or aunts, brothers or sisters. In 89, it is affirmed that no consumption has occurred among relatives, within the limits above stated, or about 53 per cent have a family history of consumption, and about 47 per cent have no such history. Of the 94 remaining cases, there is no record as to the family history. Of many of them I am quite certain a careful inquiry was made as to the family history, satisfying me that there was no consumption in the family or its branches, within the above limits; while of some of them, probably, a careful inquiry was not made. I should also state that I find it sometimes quite difficult to get a reliable history. Patients are frequently unwilling to admit that relatives have or had consumption, when there is no doubt but that such is the fact. Their desire to secure the most favorable judgment leads them to hope, and often to fully believe that relatives, really consumptive, have now, or have died of, some other disease. The patient is frequently ignorant of the facts in the case. It is therefore quite certain that the family history of consumption has been present in a much larger number of these 283 cases than indicated by the record. Whether the per cent is greater or not, it is impossible to say.

Pulmonary hemorrhage had occurred before the first consultation, in 85 of the 283 cases. Of the 85 cases of hemorrhage, the disease was located in the right lung in 43 cases, and in the left lung in 42 cases, or about 50 per cent; 28 of these

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85 cases have a family history of consumption. In 24, the record states that there is no family tendency, and in 33 cases there is no record. Of these 85 cases in which hemorrhage had occurred before first consultation, the disease, undoubtedly, commenced in the right lung in 43, and in the left lung in 42 cases. Of the 101 cases with a history of consumption, the disease commenced in the right lung in 46, or 45.6 per cent, and in the left lung in 55, or 55.4 per cent. Of the 89 cases in which the record states that there is no consumption in the family, 44 commenced in the right lung, 45, or about 50 per cent commenced in the left lung. In 154 of the cases, the record states that 49 are natives of—or have lived for many years in—the North-western States, the Ohio and Mississippi Valleys; 105 are, within the last few years, from other parts of the United States, or from foreign countries. Only about 32 per cent, therefore, can be considered as developing in the North-west, or as belonging to this region. These cases have all been seen in private practice, and have come mainly from the city of Chicago, and from the region South, West, and North-west of the city—some of them from one to two hundred miles, or more. They are not selected, but are taken from my case-book in the order in which they are recorded.

In many of these cases, I find that the first symptoms observed were connected with the digestive organs. The patients have supposed that they had dyspepsia, and only after they began to lose flesh and strength, and be short of breath, did they begin to suspect any disease of the lungs. I have the ages, sex, and occupations of these patients. They come mostly from the middle and higher classes of society, and have, therefore, been able to command the comforts of home and the means of treatment. None of them are from hospital or dispensary practice. While I have for the last few years been consulted by a relatively larger number who were natives of the North-west, I do not infer from this fact that the disease is more frequent now than formerly. It is quite possible that of the whole number of inhabitants now

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living in this region, a larger proportion are natives than formerly. In other words, the native population is increasing more rapidly than the foreign. The proportion of deaths from consumption in Chicago, to all deaths, for 22 years, from 1852 to 1873, inclusive, is 8 4-5 per cent. During the years 1870-71-72, and 73, the ratio of deaths from consumption, to deaths from all causes, were 7½ per cent, while for four years, from 1855 to 1858, inclusive, the deaths from consumption were 13 per cent of all deaths from all causes. During the years 1852 and 1854, the cholera was epidemic in Chicago, and the death-rate of consumption to all deaths was less. During the year 1867, cholera was present. Excluding these years, and taking the 19 years remaining, I find that the proportion of deaths from consumption to all deaths from all causes has been 9⅛ per cent, while for the last four years of the series it was only 7½ per cent. These figures do not support the theory that the disease is more frequent now, as compared with other causes of death, than it was 20 years ago. The physical conditions have certainly changed very much in that time. The city was then comparatively a small town. The population in 1852 was 38,734. In 1873 the population was 400,000, and yet with this crowding of so many people into a new city, with many causes of disease incident, to aggregation the death-rate from consumption in 1870, to whole number of deaths, was only 8 per cent, while in 1853 it was 14 3-5 per cent. There was no cholera, or other epidemic in either of these years. Whether the disease is relatively more frequent now than formerly, in the country and smaller cities, I have no means of judging, but I am inclined to think that it is not; with the increase of population, and to some extent changed modes of living, there has not been developed a greater tendency to this form of disease. I am aware of the difficulty of determining this point with absolute accuracy. The deaths from other diseases may be more or less than formerly, and, in either case, the figures will be modified, or the whole number of deaths to whole population may be more or less; and if so, in either case, the

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percentage of deaths from consumption to deaths from all causes will not correctly indicate the proportion of consumptives to the number of persons living, or there may be a change in what may be called the migratory habits of consumptives. It has undoubtedly been true that many persons affected with consumption, formerly, came west after the disease was far advanced, and dying here, added to our mortality from this disease; while now the favorite resorts are in the far-west, or the far-south, hence more consumptives go from Chicago and its vicinity and die elsewhere, than come from other parts and die here. I am strongly inclined to think the reverse of this was true twenty years ago. It is not likely, however, that the general inferences would be materially changed by any or all of these unknown elements that may enter into the problem.

It was referred to the Committee on Publication.

The Secretary.—There is, in connection with this report, set for this time, an improved Stethoscope which was to be exhibited by Dr. D. Lichty, of Rochelle.

Dr. Curtis showed the instrument and described its peculiarities, which consisted chiefly in an appliance for measuring the chest both before and after inflation.

The Secretary.—There is a paper here, presented by Dr. White, of Bloomington, written by Dr. E. W. Gray, on the subject of small-pox,—its cause and cure. The desire was expressed by the doctor who presented it, that if the whole paper could not be read, the resolutions appended might be read and acted upon.

Dr. White.—The paper is on the subject of small-pox; we have recently had an epidemic of that disease in our county, and it developed the fact that a large percentage of the people had never been vaccinated. The McLean County Medical Society, in consideration of that fact, thought it was well to take some steps towards the further introduction of vaccination, or creating an increased interest in it in some manner. Dr. Gray drafted the resolutions, and as preliminary to them, he has written this paper upon small-pox. In the paper is embodied a history of the epidemic, as it prevailed in our county, it was not expected that any particular action would be taken upon the resolutions; he wished simply to present them to the Society.

The Secretary read the resolutions.

The Secretary.—I move that the paper and the resolutions be referred to the Committee on Publication, and the resolutions be adopted.

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Dr. Peirce moved to amend the Secretary's motion by directing him to so change the resolutions that they should recommend certain legislation, etc.

The motion, as amended, was adopted.

SMALL-POX—ITS CAUSE AND CURE.

E. W. GRAY, M.D., Bloomington.

The several contagia resemble each other in many respects. They are communicable from person to person, as their name implies. They may be transported from place to place. They may be inoculated, taken from the air, taken from water, or from food. Within the system they rapidly reproduce themselves, are self-limited in their pathological course, and so affect the system as generally to secure it against a second attack.

But they are nevertheless specifically different. Their period of incubation differs. They exhibit widely different symptoms. Their course is different, as to their time of duration, and their consequences. They must be differently treated, and different means must be employed to arrest and prevent them. The problem, therefore, of their etiology and pathology, as well as their therapy and prophylaxis, must be separately solved for each.

Small-pox is a typical contagion most characteristic, and when not controlled or restrained, the most terrible of its kind—"the pestilence that walketh in darkness, and the destruction that wasteth at noon-day."

The fact of its contagiousness is universally impressed upon the public mind, and its usual virulence and terrible mortality justly inspire the most serious apprehensions wherever it makes its appearance, as there are always some to be found who have failed to secure the possible protection.

We will consider first what is known of the etiology of this disease.

We regret that we are still compelled to say that the *materies morbi* of small-pox has not yet been satisfactorily identi-

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fied. The disease "spreads exclusively by means of a specific virus which is begotten in the body of a small-pox patient, and conveyed, directly or indirectly, to a predisposed individual, thus causing the outbreak of variola again in the latter."—*Curschmann.*

To ascertain what is the nature of this virus has been the object of the most profound and anxious inquiry. We know, indeed, what it is not, and by the process of exclusion we may very much narrow the inquiry.

In the first place: It is not a gas. Its conduct or behavior is not that of a gas. It always has a local habitat. It prevails in certain localities, and may be topographically bounded. When it spreads, or changes place, it follows the lines of travel in whatever direction they may lead, whether with or against prevailing winds. It disregards air currents, and always travels with men, and no faster than men travel. A gas does not remain in certain spots, or change place in this way. Being aeriform, it is subject to the laws of aeriform matter. It is always spontaneously diffused through the atmosphere, according to the known laws of diffusion.—*Stewart.*

Where the air is in motion, as the external air generally is, the diffusion takes place rapidly.—*Gore.*

The immense quantities of carbonic acid gas generated by all the various processes of oxydation, is very soon equally distributed through the great atmospheric ocean.—*Lassigne, Pettenkofer, and Roscoe.*

It was found mixed with air, in its normal proportion, at great heights, by Glashier, the most gallant of aeronauts. Though generated in great quantities in large cities, it was found but in trifling excess in their crowded streets.—*Letheby and Smith.*

Indeed, the oxygen and nitrogen which constitute the atmosphere are not chemically but mechanically mixed. They are diffused, like all gases, in certain proportions, according to certain natural laws, and if any cause operate to locally disturb their due proportion, it is speedily resumed when the

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disturbing cause is removed. This is true of all aeriform substances. The heavier does not settle below, the lighter does rise above, and gaseous impurities can never accumulate to do much harm in the open air. But for this benevolent law of aeriform matter, the seething and putrifying masses of filth that are allowed to accumulate in many localities, and the mephitic gases which they generate, would have a more terrible significance than can now be attached to them on the score of health. The small-pox contagion, then, is not a gas.

2. It is not inorganic matter, destitute of vitality and the power of reproduction.

One of the most prominent and notable characteristics of this poison is, that a minimal quantity once infected, in no great length of time becomes capable of infecting many others, perhaps hundreds, each of which, in turn, becomes a centre capable of infecting as many more. This fact cannot be predicated of an inorganic poison. A minimal quantity of such a poison may, theoretically, at least, be divided many, even a hundred, times, but in this divided condition, it could not produce the disease at all. The least possible quantity needed to infect one could not be divided without destroying its power of infection. As it cannot reproduce itself, it is rendered innocuous by division. Such a theory utterly fails to account for the conduct and spread of the disease.

It is, then, neither a gas nor an inorganic poison.

Two principal theories exist as to the morbid action which constitutes the disease in question.

"Ita ignis ignem generat et maligno infectus morbo socium inficit."—*Sydenham.*

A minimal quantity of heat will ignite a shaving and burn a house, or an entire city, as a minimal quantity of small-pox virus will develop into a pestilence, and fill the whole land with disease and death. There is no limit to combustion, but the exhaustion of the material of combustion, and likewise, then, none to the contagium of small-pox but the absence of unprotected victims. Accordingly we have the theory of a *contagium chemicum.* Very many have believed that the morbid action is essentially chemical.

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Dr. E. P. Hurd, in the Boston *Medical and Surgical Journal*, June, 1874, says: "In rejecting the germ theory as untenable, we have either to confess our ignorance of the causes of all febrile and inflammatory contagious diseases, or, guided by analogy, to accept the alternative that the principle of contagion is a subtle chemical ferment, an organic poison generated in the body of the diseased individual, derived from other diseased individuals by various ways of infection." This may be taken as a fair statement of the chemical theory of the contagious poisons. They are *chemical ferments*, so-called. The processes of fermentation and of decomposition resemble each other in their power of extension from the smallest beginning until they embrace the whole subject; and they are set forth as illustrating the nature and conduct of certain infectious and contagious diseases. The term zymotic has found an extensive application to diseases in medical literature, and it is employed, it is supposed, with special propriety, to characterize the contagions. But what are we to understand by the process of fermentation? Is it a chemical process in the sense in which this phrase is employed in natural science? Chemistry proper deals with the molecules of brute matter. Its analysis and synthesis are those of non-vital compounds. If chemical changes co-exist with the process of fermentation, they do not constitute it. There are various kinds of fermentation, acid or alkaline. Numerous small fermentative fungi make their appearance in the urine as a sign of the acid fermentation. They quite remind one of the yeast fungus, but are smaller. This fermentation having exhausted itself, another fungus and the alkaline fermentation succeeds.—*Frey*. All are familiar with the vibrionæ of pus fermentation, the cervisiæ crypto-cocci of yeast fermentation, etc. "Since we know," says Leibermeister, "that those ferment processes, which here alone can be taken into consideration, and which we shall designate fermentations, in the narrower sense of the word, are all associated with the presence and multiplication of low organisms, the theory of fermentation becomes vir-

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tually identical with the theory of a *contagium vivum.*" *Sic transit.*

Thus the theory of a chemical ferment, as stated by Dr. Hurd, and as principally held, we believe, by those who reject the germ theory of zymotic diseases generally, dissolves, and would appear to be untenable, not to say self-contradictory. .

The process of combustion or decomposition resemble that of small-pox and the contagia generally in two particulars: First, they spread under suitable conditions by contact; and, second, they both destroy the susceptibility of retaking in the material affected. Beyond these, all seems to be disagreement.

In combustion, heat and oxygen are the chief agents. But on the theory of a *contagium chemicum*, what are they in small-pox? In combustion there is analysis of existing compounds, and the synthesis of other compounds. But in small-pox, what analysis—what synthesis? In combustion and decomposition, the morphological changes are mostly great and obvious in small-pox; save the incident pustules and pitting, they are never perceptible. In the whole range of toxicology, a subject now so accurately understood, there is not a single observation that discovers a purely chemical agent capable of producing the disease.

Small-pox is the most wide-spread of contagions. It has traversed all lands. It has made the circuit of the globe, but no one of the great army of observers has ever detected the toxic agent—the *seminem morbi* or chemical law which the theory implies. If the hypothesis, then, of a *contagium chemicum* ought not to be summarily rejected, it certainly cannot yet be received as very probable.

2. This reasoning by exclusion has left us but one hypothesis as most probable—that of a *contagium vivum*—as the efficient and immediate cause of small-pox.

That the contagion is organic, and has a certain grade or degree of vitality, is rendered probable by the following facts and analogies:

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1. Under suitable conditions, animals and plants multiply by reproduction *ad infinitum*. This is especially true of the so-called infinitesimal species. The microscope, with its recent high powers, has revealed many that are invisible to the naked eye, but it is by no means probable that it has carried human vision to the outmost limits of microscopic being. We know that some of the coarser or larger find a suitable habitat within the human body, and that they here procreate and produce disease.

"The proof is furnished," says Leibermeister, from whom I condense a good part of this argument, "that the organisms which appear in some diseases are actually the sole and sufficient cause of such diseases;" and he gives malignant pustule as a single example. Others equally striking readily recur to the intelligent physician, among which we may mention the numerous skin diseases produced by fungi, mycosis intestinalis, and trichinosis. So long as the itch mite was unknown, scabies was regarded as the prototype of a purely contagious disease. But when this parasite was discovered, it was recognized by all as the sole cause of the disease, and it is now banished from the list of contagious diseases.

In the light of these facts, it is not improbable that invisible beings may also infest the delicate structures of the human body, and produce disease and death.

2. Besides, the conduct of the virus, be it what it may, in its development and history resembles that of organic life. A seed is planted in a suitable soil; it germinates, grows, bears its fruit, and dies. An egg, in suitable conditions incubates, wakes into life, produces its kind, grows old, and dies.

This contagion, too, has its corresponding periods introduced into the system it germinates or incubates, it lives, grows old, and dies.

3. Moreover, the hypothesis of a *contagium vivum* explains incomparably better than any other, the fact of its rapid extension. It is a well established fact in natural science that certain species of both plants and animals increase with the most astonishing rapidity of reproduction;

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and in strict accordance with this fact, we know, as we have already stated, that a minimal quantity of small-pox virus will, if the conditions are favorable, very soon develop into a devastating pestilence.

4. Finally, upon this point, this virus is of a specific nature, and this characteristic is quite as pronounced as it is in plants and animals. This specificness shows itself in the fact that always, and under all circumstances, the disease is solely due to a given kind of morbid agent or cause. There is no such constancy in the relation between the cause and manifestation of other non-infectious or contagious diseases. Exposure to the same degree of cold will occasion different affections, varying with the individuality of the person attacked. In one person, a coryza, in another, bronchial catarrh, in a third, an attack of colic, diarrhœa, toothache, facial paralysis, or any other lighter or more severe "rheumatic" affection; or, *vice versa*, a catarrh can originate from irritants affecting the mucous membrane of the nose, or from cold to which the feet have been exposed, or by poisoning, as with iodine. On the other hand, inoculation with the virus of variola alone produces variola, and whoever is affected with small-pox is certain that he has taken the disease. We always see in this disease the same completeness of correllation between cause and manifestation as we see existing between seed and plant in vegetable reproduction, and between parent and offspring in the reproduction of animals.

In other non-infectious diseases, predisposing causes play an important part in determining the course and type of the disease, but in small-pox these are only to be considered so far as there may be a question as to a special susceptibility, and so far as they may determine the severity of the disease. In its nature or kind, the disease is definitely determined by its proper cause, and, in this respect, is entirely independent of predisposing causes.*

* See Cyclop. Med., page 11, *et seq.*

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As it is impossible for a sheep to be bred of a cow, or a donkey of a horse, so it is just as impossible for a man to have scarlet-fever or measles from infection with the poison of small-pox.

I conclude this thought in the words of this same distinguished author: "It is superfluous to show at any more length how this individual character of the causes which distinguish infectious diseases from all others correspond in the fullest manner to the view which bases these causes upon specifically different organisms. The doctrine of specificness would arise, as a necessary consequence from the hypothesis of a *contagium vivum*, even if it were not already directly proved by the facts."

If what has been said is true, the contagium of small-pox never originates *de novo* or spontaneously. The doctrine of equivocal generation, which, forty years ago, was so popular, has been sufficiently exploded, and is now practically abandoned. The doctrine of the survival of the fittest, which to-day finds much favor, would only prove that the organic poison has become more vigorous, and, therefore, more virulent than it was in former ages; a conclusion which is not sustained by the facts of history. The hypothesis of a *contagium vivum*, therefore, precludes and debars any expectation that the disease will ever change its type, or loose its justly dreaded power over the unprotected, and, on the other hand, gives the amplest assurance that it can never originate spontaneously; an assurance which must encourage and determine, to some extent, the means to be employed in preventing the spread of the disease.

With all these analogies and presumptions in favor of a *contagium vivum* as the cause of small-pox, it is most reasonable that an effort to discover and identify it under the miscroscope should be made. Accordingly, the most diligent and painstaking search has been prosecuted by many observers. "In small-pox wards," says Dr. Parke,* "Bakewell found unequivical evidence of minute scales of small-

* Manual Pract. Hygene, page 97.

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pox matter in the air;" and again he says:* "In variolus and vaccine discharge, and in glanders, the poison certainly exists in the form of solid particles which can be seen by high powers as glistening points of extreme minuteness."

Gluge, as early as 1838, described small shining bodies, often united in small chains, as integral elements of small-pox lymph—*Curschmann.*

One of the most valuable papers on this subject is by F. Cohn. He found in the fresh lymph taken from vaccine and small-pox pustules, small rounded bodies possessed of molecular movement, and measuring less than .001 m.m. When these rounded bodies were watched for some time, keeping them at a uniform temperature of 35′ C., they became segmented, and formed small chains and masses. Cohn considered these bodies, which had been already described by Keber, as organisms of the lowest grade. He named them microsphæra, belonging to the family schizomyceta, and to the group bacterriacia. He considers these organisms to be probably the vehicles of contagion—certainly not mere chance products.†

Lebert refers to the same when he says: "The pustules of vaccinia and variola have constantly been observed to contain the minute mycrococcus, like round fungi, the rapid multiplication of which has been observed by F. Cohn and myself."‡

In describing their manner of propagation, he says (*loc. cit.*), it is "by germination—a biscuit-like contraction with subsequent separation," and that their power of reproduction is "rapid and enormous"—"incredible."

The fungus of vaccinia and of variola are, at least, optically identical (Cohn, Weigart, and Lebert); but Lebert reasonably thinks they must be essentially different from the difference in the diseases they produce. Klebs and Erismann saw the same fungi "in the contents of the pustules;"

* Manual Pract. Hygene, page 474.

† Curschmann Cyclop. Prac. Med., Vol. III., page 381.

‡ Cyclop. Prac. Med., Vol. I., page 239.

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and Zuler lays great stress upon the presence of these bodies "in the walls and lumen of the blood-vessels," as a factor in the disease. He says, "in the fulminant form" of variola, they infiltrate the walls of the small arteries, and may even completely fill the smallest arteries of the skin. He believes that "these living thrombi are active causes in the formation of purpuric spots and pustules." The arteries and the tubules of the kidneys are, he says, "filled with the same bodies, while in the other viscera they are seldom seen." In the blood, also, during the first three days of the disease, he has demonstrated the microspheres, but "only in purpura variolosa."—*Condensed from Curschmann.*

These microscopic observations do indeed demonstrate that these fungus microspheres—shining spots of extreme minuteness, whose power of reproduction is described as being so incredibly rapid—have always been found in small-pox when the observations have been conducted by competent observers, with instruments of high powers. But all attempts to cultivate these organisms have hitherto failed, and every effort to identify them as the *maleries morbi*, or *contagium* proper, has also hitherto failed.

Other questions in relation to the conduct and pathology of this disease now claim our attention.

1. It is well agreed that the poison may exist in and be carried from place to place through the air. It escapes from the lungs and from the skin. "The contagion not only adheres to the patient himself, but is present in his immediate vicinity in the respired air and in the perspiration. It appears to be 'secreted' by all the emunctory surfaces of the body, among which the skin naturally plays a prominent part. In general, it can be said that the contagion loses efficiency with increasing distance from the patient. Predisposed persons are the more readily affected the longer they remain in the vicinity of patients, the smaller the apartment, and the greater the number and severity of the cases occupying it. In large, spacious apartments with few patients, the danger is slighter, and it is still less in the open air."—*Curschmann.*

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"The various secretions, as the urine, saliva, and expectoration, and even the fæces of small-pox patients, do not contain the poison, as experimental attempts to inoculate with them have always failed."—Interesting facts given on the same authority.

2. How soon does one infected become capable of imparting the disease? This is a practical question, concerning which many physicians are in doubt, and often erroneous and fatal advice is given through ignorance. In the history of the late epidemic, which has yet scarcely disappeared from our very midst, it is stated that a physician assured the people that there was no danger of taking the disease previous to the eruption! and, we think, very many have supposed that there was no danger previous to the occurrence of fever. The earliest period of suppuration is usually considered as the beginning of danger, and the period of desquamation as especially dangerous. But there is good reason for supposing that the danger begins much earlier.

The frequent cases in which patients are unable to indicate the source of infection—they not having come in contact, as they supposed, with any one having the disease—are in part to be referred to infection during the initial stage (*Curschmann*), when as yet no trace of the eruption exists. Infection may take place during the period of incubation, which is, for the most part, free from every symptom of the disease. "In the Charite Hospital of Berlin, small pieces of skin were taken, for transplantation upon other individuals, from the amputated arm of a person who, before and at the time of amputation, did not manifest the slightest symptoms of the disease. Several hours after the amputation, the patient was attacked with violent fever, followed, two days later, by an eruption of small-pox. One of the individuals, upon whom the transplanted skins had been placed, was attacked with variola on the sixth day after the operation; the three others remained exempt.—*Schoper, by Curschmann.*

3. How does the *contagium* get into the system? The unbroken epidermis guards the external body, and the

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epithelial covering of the mucous membrane protects, when not ruptured, the internal surface. Through these structures, fluids pass and repass by endosmosis and exosmosis, but matter, not actually in a fluid state is effectually barred *(Flint)*, unless some lesion is effected, or some force employed in penetrating them. At least, this is according to our present knowledge. If, as we have endeavored to show, the contagion is living organic matter, it can only find its way as such through some break in the epidermis, some lesion of the epithelial covering, or by virtue of inherent power which enables it to penetrate the delicate shield. The epidermis seems to be the more effectual bar. The vaccine matter and the variolus matter as well, will not "take," unless inserted under the epidermis. "It is highly probable that the contagion never enters the system through the external unbroken skin. Both at an early date, and more recently, experiments have been made to determine this, and wherever success has been noted, it has almost always appeared that the virus had been rubbed into the skin with force, and for a length of time. It is probable, therefore, that the skin became superficially wounded in the operation."—*Curschmann.*

There can be no doubt that infection usually takes place through the mucous membrane of the respiratory tract. Inoculation was formerly practiced by introducing a crust into the nose. The breath of the variolus patient is charged with the poison, and, being respired, it penetrates the mucous membrane, and finds conditions suited to its rapid reproduction and a new cycle of being. It may gain admission to the system through the mucous membrane of the alimentary canal. Inoculation has been successfully practiced by swallowing small-pox pus. Indeed, this was the usual method of inoculation formerly in Bengal (*Eimer*). By whatever means it gains admission, it has its period of incubation—eight to fourteen days—usually from ten to thirteen; its initial or prodromal stage, three days; its period of eruption, twelve days; and finally, its period of desiccation, continuing for indefinite

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periods, according to the condition of the skin and the grade of the disease. Within a period of five or six weeks, the desiccation has completed its course, unless there should occur serious complications to delay the restoration of health.

4. It is said by Curschmann, and it has been taught by others, that the disease is more fatal among races of color, as negroes and indians.

Such an opinion, we doubt not, has sprung from the greater havoc it has produced among these races, in consequence of their being less perfectly protected by vaccination than others. Among the hundreds of all ages, sexes, and colors that we had in the government small-pox hospital at Natchez, during the late war, we had a good opportunity to observe the comparative effect of the disease upon whites and negroes, and, certainly, nothing appeared to justify any such conclusion.

5. It is not yet well understood how long the contagion can retain its power of infection external to the organism.

The time seems to be short in the open air, a fact which argues that if not a gaseous substance, as we have seen, it is at least very light and volatile, and speedily capable of such dissipation through the atmospheric ocean as to be rendered innocuous. It is, however, capable of adhering to solid objects, and with them may be carried to great distances, as already stated. Wrapped up in clothing, and especially in woolen goods, and well excluded from the air, it retains its power of infection for months, and perhaps for years, but the precise period of its external durability has not been determined.

PATHOLOGY.

6. The pathology of small-pox is confessedly obscure. The disease is a typical *major exanthem.* It has always, I believe, been regarded as a blood-poison—a zymotica affecting the blood and all the fluids of the system. In consequence of such poisoning and vitiation of the fluids, the skin and other organs become involved, according to individual peculiarity. I have not met with an expressed doubt of the truly constitutional character of the disease; it would indicate

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great disregard of authority to avow distinct opposition to this theory. But there are some facts which seem to lie against it.

(1.) The microspheræ, which have been always and by different observers seen in the pustules, and which presumptively constitute the *materies morbi*, have never been found in the blood, though the most careful and painstaking search has been made for them by Lebert and others.

(2.) Besides, there is reason to believe that the disease cannot be communicated by means of transmitted blood. When it was lawful and considered justifiable to inoculate the disease, the efforts to do so with blood were entirely ineffective (*Curschmann*); though it is added, Osiander inoculated sheep, as he supposed, with the blood of affected sheep, and Zuler succeeded, as he thought, in transmitting the disease to a monkey from the blood of a variolous patient.

It is possible, however, that both Osiander and Zuler were mistaken, as, in all probability, the disease might have been otherwise transmitted. That they were mistaken is rendered probable by the uniform failure of all other experiments, and especially by other well-attested facts, which I proceed to mention.

"*A priori*," says Curschmann, "one would imagine that in consequence of the close relationship of its blood to that of its mother the fœtus would pass through all the phases of the disease coincidently with her. Strange to say, however, this appears to have been but seldom observed. In a majority of reported cases, the infection of the embryo appears rather to have taken place at a later period than that of the mother, and during the pustular or desiccative stage, which would indicate infection by simple contact rather than by the blood." "This is quite in accord with the assertion of the older authors, that infection takes place most readily when the liquor amnii is present in least amount. Were the blood of the mother the principal infecting agent, the disease in the fœtus would certainly be of more frequent, if not of constant, occurrence, for at no other time of life do such absolutely favorable conditions

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exist." These facts are taken from an author, it must be remembered, who never seemed to question the constitutional nature of the disease. As illustrating his statement of facts he proceeds to give* the details of a case admitted to Hospital, and concludes as follows: "As far as this case goes, the period of infection of the fœtus does not coincide with the beginning, but with the latest period of the disease in the mother. The mother had fully recovered on the 10th of Dec., and could not have been the source of infection later. On the 28th, 18 days afterwards, when the fœtal movements had finally ceased, the death of the fœtus doubtless occurred. If we accept for the fœtus, the same duration of separate stages as is common to children under one year of age, the appearances were such as to place the time of death in this case somewhere between the 6th and 8th days of the disease, and hence we must accept an incubatory period of at least 10 to 14 days, and the latest period of the disease of the mother as that of infection."

We can scarcely imagine a more conclusive argument against the theory of blood-poison in this disease than such facts furnish.

3. There are some other facts which strongly indicate that the disease is not, at least, in its initial stages, in any proper sense constitutional. The eruption is local. Hardly in its worst forms does it appear to be general—affecting all parts of the surface. In all the milder forms there are large portions of the skin that remain unaffected—natural; and the same is true of other tissues and organs. Anatomical lesions of the brain are not always found, indeed they are not common.—*Curschmann.* No affection of parenchymatous structures, excepting, perhaps, lymphatic glands; no affection of the peritoneum or of synovial membranes is constant, and complications from changes in the abdominal viscera are not frequent.—*Ibid.* Even the muscular system is not directly and seriously involved, as patients usually retain their power of locomotion. The habitat of the disease is closely and always *the mucous*

* Cyclop. Prac. Med., Vol. II, p. 327, *et seq.*

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membrane, and the skin, and other parts of the system are involved only, we believe, as they depend upon these in the discharge of their proper functions.

4. There are other facts which indicate the essential localization of the disease. "Portions of skin upon which mechanical or chemical irritation has acted, either before infection, or during the stage of incubation, are usually affected in a very characteristic manner. Even when the eruption is extremely scanty upon the remainder of the body, the pustules here are usually very abundant and frequently even confluent. This behavior of the exanthem comes most frequently under observation where shortly before irritating inunctions or pencillings with iodine have been made, sinapisms or drawing plasters applied, or contusions or superficial erosions have taken place. A case especially striking in this regard presented itself to me in a man who had been seriously infested with body-lice before his infection. He came in with a varioloid of moderate severity, and exhibited numerous scratches, extending over the whole body, studded with pustules crowded thickly one upon another, like pearls on a string, and partly confluent. Many of those streaks were three or four inches in length, and at a distance gave the patient the appearance of having been tattooed."*

It must be remembered that this localization of the disease is only possible at the time of its inception, previous to or during the incubatory stage.

It appears, therefore, that the skin, the favorite habitat of the disease, is most exposed at the points where the protecting epidermis has been broken or removed, and that the disease does not necessarily pass from within outward to the skin, but from the first may be located in papulæ of the cutis, where its principal manifestation takes place.

A cognate fact is also true of the internal skin—the mucous membrane. The eruption is scarcely ever wanting on the mucous membrane of the mouth, pharynx, and contiguous regions. Thence the eruption not unfrequently proceeds

* Cyclop. Prac. Med., Vol. II., p. 359.—*Curschmann.*

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farther upon the mucous membrane of the pharynx, larynx, and trachea, "decreasing in density as it extends in depth."

It may be stated, generally, that the eruption of varioloid takes place upon the mucous membrane at the orifices of the various canals of the body, as at the mouth, the nares, the anus, vulva, and vagina, in preference to more internal and less exposed parts of this integument; another fact hardly explicable under the theory that the disease is not parasitic but constitutional.

In conclusion, upon this subject, how shall we explain these facts? Is this disease too local-parasitic? How many diseases have passed from the category of "constitutional?" Shall we yet discover that this famous zymotica, this most typical of contagions, is, after all, not a disease of the blood—not constitutional, but parasitic, involving certain organs primarily, and others, and possibly the whole system, incidentally? And if this be true of small-pox, what of the contagia generally?

THE CURE.

There is no cure for small-pox yet known. No intelligent physician pretends to be able to cure this disease by the use of medicine. He will endeavor to supply good air and good food. He will maintain for his patient a proper temperature, which must be comparatively low, 60°-67° Fahrenheit—*Curschmann*,—give him plenty of good, cold water, regulate his bowels, keep him clean, and generally treat the symptoms as they may arise in respective cases. But he does not even hope for a cure. Officious intermeddling should be avoided, lest harm be done. The effort on the part of anxious nurses, and sometimes sanctioned by "doctors," so-called, still practiced to some extent, to drive out the disease by hot drinks and profuse sweating, is productive of evil, and has done much harm. The disease will run its course, and will terminate in due time, either prematurely in death, or maturely, in recovery.

But if small-pox cannot be cured it *can* be prevented, and prevention is even better than cure. That it can be prevented was announced to the world 75 years ago, by that apostle of

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humanity, the illustrious Jenner. In 1800, he declared that vaccination, "when duly and efficiently performed, will protect the constitution from subsequent attacks of small-pox, as much as the disease itself." "I never expected," he says, "it would do more, and it will not, I believe, do less." The faith of Jenner in 75 years has become the faith of the intelligent world—vaccination will prevent small-pox. Do we appreciate this momentous fact? During the last century, one-tenth of the population, on the authority of Niemeyer,* died of small-pox; 400,000 died every year in Europe. Another one-tenth were disfigured by the disease. Since the introduction of vaccination the general mortality is less, and that from small-pox is reduced to a minimum."

Owing to that criminal stupidity and ingratitude, which is characteristic of some people, there are thousands in every country, where vaccination is not required by law, who disregard the proffered boon, remain unprotected, take the terrible disease, and die. In some minds there is an unaccountable prejudice against vaccination, while some doubts as to its prophylactic power are creeping around through society everywhere, arising from the use of inefficient matter; and some reasonable distrust is felt lest, instead of doing good; it may do harm, by planting the seeds of other diseases. Under these circumstances, there really seems to be a need of some reassurance and reawakening to the importance of the subject. It must not be thought that small-pox has lost any of its frightful power. It should not be forgotten that vaccine virus is its competent antidote. It ought to be known that much of the vaccination of the country is utterly inefficient and worthless, and that there are yet many who are made the victims of a false security which may prove their ruin. Let us first be assured that true vaccination will give protection. Of this the proof is abundant.

According to statistics taken by Dr. Marson, of the London Small-Pox Hospital, with the observation of many thousand cases, vaccination, where properly performed, had reduced the

* See his Prac. Med., Vol. II, p. 553.

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mortality to one-half of one per cent. of those having the disease, while a very large per cent. of those vaccinated, as we all know, never take the disease in any form.

Vaccination was made compulsory in Ireland in 1864. The Medical Inspector of the Privy Council, England—Dr. Seaton—writing to Dr. Davis, of Cincinnati, in 1870, says, "there is not now, and has not been for nearly a year, any small-pox at all in Ireland."

"England has demonstrated that it is possible to exclude small-pox from her dominions."—*Davis.*

The disease has been practically banished from the Prussian army, where vaccination is regularly enforced, and an effort, likely to prove successful, is now being made to secure for all citizens the immunity which the soldiers have long enjoyed. Vaccination has reduced the number of deaths from small-pox from 400,000 annually, in Europe alone, in the last century, to a minimum (*Niemeyer*) in the present.

The experiment with vaccination, which has been so often repeated and on so large a scale, under such varying circumstances, and which has been so completely successful and gratifying in the Old World, has been not less satisfactory in the New.

The following facts are condensed from a very able paper, read by Dr. W. B. Davis before the Ohio State Med. Society, in 1870: Dr. J. P. Loines, vaccine physician to the Eastern Dispensary and to the quarantine of the port of New York, says: "My numbers vaccinated during the past 15 years, have been considerably over 200,000, and I have not yet heard of a case of variola or varioloid occurring to any one whom I have pronounced vaccinated."

Dr. Parkinson, who served as vaccinator to the New York Dispensary for about 16 years, and who vaccinated about 40,000, also said, "none have taken small-pox after my vaccination."

Dr. Edwin M. Snow, Superintendent of Health of the City of Providence, one of the most careful and competent officers in the country, says: "We often see statements in the public

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papers that vaccination has lost its protective power against small-pox, or that it has run out, implying that vaccine virus has lost, either in kind or degree, some of the properties it possessed when first discovered. * * There is not one particle of truth in them. The character and properties of vaccine virus are as perfect, and its protective power against small-pox is as certain and effectual, as when first discovered by Jenner." * * "During the past 14 years, 10,464 have been vaccinated in my office. During the same 14 years, I have myself given certificates of vaccination to 16,332 children to enter the public schools. During these same years, I have known of nearly every case of small-pox in Providence, and I have visited the greater portion of them myself, and I have never, during this time, seen or heard of a single case of small-pox in any scholar in the public schools, who had received a vaccination certificate."

Dr. Clendenin, in his report to the Board of Health of Cincinnati, says: "Not one death occurred from small-pox in which there was unmistakable proof that the individual had been previously properly vaccinated; while on the other hand fully 90 per cent. of those who died of small-pox—644—during the last fiscal year, had not been vaccinated."

"Let me state," says Dr. Gibbons,* "a fact of immense magnitude in its bearing on this question. During the prevalence of small-pox in San Francisco, covering the greater part of the year (1869), not a physician contracted the disease, nor a professional nurse, nor a solitary member of the families of physicians or nurses. * * Those persons armed themselves with the shield of the immortal Jenner, and walked unscathed amid the rankling pestilence while ministering to its victims."

Such proofs could be indefinitely extended, but these shall suffice. Small-pox, though incurable, may be prevented by vaccination.

Why, then, is it not prevented? Why is it still permitted to carry off its thousands? *Epidemics*, even, are still possible. Why? We have just had one on a small scale, here in Cen-

* Editor of the Pacific Med. and Surg. Journal.

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tral Illinois—50 cases and 12 or 13 deaths! In 1868 and '69, one swept over large portions of the United States, in which more than 2-10ths of one per cent. of the population visited perished! And comparatively recent epidemics, in the old world, were hardly less terrible. Why all this, if the disease can be so prevented?

The answer has already been indicated. From whatever cause or causes efficient vaccination has not been performed —the possible protection has not been secured. Many from stolid indifference or stupid neglect have not been vaccinated, but others, very many others who share our sympathy, have been made the victims of a false security by inefficient vaccination.

We have no disposition to enter the war of the viruses. It was long and patiently fought in France and other states of Europe—it is still fought in this country with needless excitement. There can be no doubt that both the animal and the humanized virus may be both pure and efficient; equally innocent, and equally certain to give protection.

It is historically true, that a very great deal of matter supposed to be humanized vaccine virus, has been used, which has done no good and some harm, but which was not vaccine virus at all, but something else, often in miserably incompetent hands. Animal virus is less easily obtained; it has therefore been less frequently handled, and has suffered less from incompetent and unscrupulous huxters, but nevertheless much found in the market is utterly inefficient and deceptive, and like the humanized virus, is never reliable in the hands of the incompetent and unscrupulous.

What demands our most serious attention is the prime fact that much of the floating vaccine virus so-called, is wholly inefficient. The great number of revaccinations that "take," is proof of this. If the vaccination has been genuine, a second vaccination will but rarely take. But it is well known that a large per cent. of revaccinations do take in these later days in this country.

Dr. O'Brien, Health Officer of Buffalo, reports 49,347 re-

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vaccinations for 1873, of which 91 per cent. were successful, and nearly as large a per cent. of successful revaccinations was realized at the New York dispensary, during the same year, (*Griffin*). Even in Europe, where much more care is had in the selection of matter for use, from 40 to 75 per cent. of the revaccinations are successful. (*Donnet, Bosquet, and Steinburner*).

Vaccine virus is sensitive to the changes of time, to the action of heat, and moisture especially, and early becomes deteriorated and unreliable. Bryce, in 1809, first suggested the use of the dried crust, and this is the form in which the greater portion of the stock has been preserved. Just how long a crust will remain good under favorable circumstances, has not we believe been determined, and whether a given crust has been carefully and successfully preserved, cannot always be known. It is apparent therefore that a large amount of degenerated and spurious virus may have found, and probably has found, its way into the floating stock of the country.

Dr. Hatch, member of the Board of Health, of Sacramento, as quoted by Dr. W. B. Davis, says, what we all know to be true: "Medical men are apt to neglect seeing for themselves that the operation of vaccination, having been performed, is successful. Nurses and midwives, for money, and kind-hearted, well-meaning persons, from notions of benevolence, have gone from house to house offering vaccination to those desiring it. The Great Discovery of Jenner, has been put to a severe test;" but he adds: "A more careful examination of facts has only served more and more to strengthen our reliance upon this beneficent measure."

From all causes, but chiefly from criminal neglect, and the use of inefficient matter, there are large proportions of the various communities throughout the country still unprotected. My attention was painfully directed to this fact in our recent epidemic. From some unaccountable error of diagnosis in the case of a woman who was somewhere abroad, had contracted the disease, came home and died, the whole

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neighborhood were suddenly and simultaneously exposed. The cause of death not having been suspected, the corpse was taken to church for funeral services, and according to custom exposed to view. From this centre of infection, 50, in a comparatively sparsely settled neighborhood—a large proportion of all who were exposed—took the disease and, be it noted, 12 if not more, died! This in central Illinois!

There is no reason for supposing this community less protected than other similar communities throughout the country. But fortunately there seldom occurs so good an opportunity to test the danger to which the people are constantly liable—the general want of protection that is still permitted to exist. In the yet recent epidemic in Cincinnati, in a population of some 300,000, there were 2674 cases of small-pox reported to the Board of Health, besides many which were not reported, making probably, in all, not less than 4000. This when the disease appeared in isolated cases, and spread from one individual to another by the usually slow progress of unavoidable infection, thus giving the people warning, and time to prepare for the worst.

The scourge fell with terrible disaster upon the Indians, and upon California. According to the reports of Drs. Gibbons, Logan, and Hatch, the disease prevailed in California to a greater extent than ever before, and with a virulence and fatality hardly ever surpassed.

Dr. Hatch reports one death in 3 2-10ths of the cases in hospital, and one in 2 9-10ths of the cases in private practice in Sacramento!

Dr. Logan reports one death to every 2½ cases in San Francisco!

This California mortality is charged, by the intelligent physicians witnessing it, to the want of proper vaccination. Such a mortality proves beyond question, that the victims of the scourge had either never been vaccinated, or that the virus generally used was worthless.

In the problem before us then, we have given a virulent devastating contagion, which has visited all lands, and is

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capable of destroying outright one-third of every population. We have also given a prophylactic agent capable of effectually arresting and preventing the terrible and universal scourge; and, lastly, we have given such stupid indifference and neglect of the remedy as to render it inoperative and ineffectual as to a large portion of the people of our state and country, who still remain unprotected; to aid us in determining what course to take in relation to this terrible minister of death.

None are so familiar with the disgusting horrors of this disease as physicians. None know so well the infallible certainty with which it may be averted. No class of men therefore are so charged with responsibility in relation to it as these conservators of the public health. Have they generally discharged their duties? They vaccinate such as call upon them. They advise their friends and patrons to arm themselves with the protection which vaccination affords. They confront the disease in its worst forms and minister to its victims. They have occasionally warned the indifferent public through the press of their danger. Is this all they can do? Is this all that should be done? We believe that the feeling is general among the more intelligent, both in the profession and out of it, who know what benevolent possibilities are practicable, that something more should be done. In several of the states of Europe more has been done. Compulsory vaccination has been long practiced in the Prussian and other armies. It is now established throughout the German Empire. It was established in the British Isles in 1864. It has been established in Italy and I believe in Switzerland, in France and probably other European States, and always with such completely satisfactory and beneficent results as to vindicate most fully the propriety of such legislation. Physicians especially are feeling more and more that every life lost by this disease is needlessly sacrificed, that a matter of such gravity should not be left subject to individual caprice and folly. Laws have been made for the protection of sheep and cattle from contagious diseases in this state and else-

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where. Law-makers have felt it to be their duty to provide against hydrophobia, and the right of the individual is invaded without hesitation when the public convenience or the public purse is affected, but the contagion of small-pox is allowed, unrestricted by law, to sweep off its thousands to untimely graves! The business of vaccination is permitted to the unscrupulous and incapable. All sorts of worthless, poisonous stuff is permitted to be bartered and used for genuine virus. Thousands, scattered far and wide, are permitted to remain unprotected, each of whom may become at once a doomed victim of the disease, and the centre and starting point of a devestating epidemic. The blood of the thousands slain cries from the ground. "We are therefore driven to the conclusion," says Dr. Clendenin of Cincinnati, "that the lives of 580 persons who died during the past year in this city, might have been saved by vaccination." This is the conclusion to which we are all driven by the history of vaccination as to all who shall yet fall victims to this contagion.

Entertaining such views and such feelings, Mr. President and gentlemen, I have the more readily accepted a commission from our County Medical Society to this honorable body. I am here to solicit on behalf of our Society your co-operation and influence, in favor of securing for this state a law requiring general vaccination with good and efficient virus.

The loose and irresponsible manner in which all sorts of poisonous matter is foisted upon the public and bartered through the community, is an imposition and an outrage upon the innocent people, and demands authoritative regulation. The protection of life demands compulsory vaccination. Before the discovery of Jenner, one-tenth of each generation died of small-pox. But for it we should have in this state to offer up annually not less than 7500 of our citizens.

And, gentlemen, it is deemed eminently proper, that physicians should take the lead in an effort to secure such philanthropic legislation. None know so well as they, the benevolent purposes it would accomplish, and no class of men, as

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all history shows, have displayed greater public spirit or more unselfish liberality and benevolence, than these honored custodians of the public health.

In conclusion, permit me to submit the following resolutions for your favorable consideration:

Resolved, First, That the Illinois State Medical Society appoint a Committee, to consist of three members, and one corresponding member from each county in the State represented in this Society, to prepare and present a memorial to the Illinois Legislature, praying for the enactment of a law which will require all pupils of the public schools, and other educational institutions supported in whole or in part by State or county tax, and all inmates of asylums, hospitals, reform or correctional schools, work-houses, jails, penitentiaries, etc., supported at public expense, to be vaccinated, upon admission to the several establishments, unless satisfactory evidence is furnished to a competent inspecting physician that the parties are fully protected by previous vaccination.

Resolved, Second, That it be made the duty of Boards of Health, where they exist, and of County Commissioners where they do not, to appoint a qualified medical officer, who shall, semi-annually, inspect the pupils of public and other State schools, and furnish a certificate of vaccination to those who are fully protected, and who shall gratuitously vaccinate those who are not; and no pupil shall be allowed to continue in said schools who has not received a certificate of vaccination.

Resolved, Third, That the several Boards having control of the State or county reformatory or correctional institutions shall appoint each a qualified medical officer, who shall vaccinate all the inmates of the said institutions, without respect to any previous vaccination; and all persons admitted thereafter shall be vaccinated immediately upon their admission.

Resolved, Fourth, That the Legislature be petitioned, by the same Committee, to pass a law, requiring all cities within the State, having a population of 20,000 or upwards, to pro-

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vide and support vaccine establishments, for the purpose of cultivating, and having constantly on hand, good and reliable virus, which shall be gratuitously furnished for the uses herein above indicated.

It is proper to state that, these resolutions have been copied, with some modifications, from those offered to the Ohio State Medical Society, by Dr. Davis; and it will be noticed, that they require the vaccination of those only who are in some way the beneficiaries of the State.

On motion of Dr. Haller, Dr. Prince was elected a Special Committee on Staphyloraphy.

Adjourned until 2.30 p. m.

AFTEROON SESSION.

The Secretary read the list of delegates and permanent members in attendance, which was approved. (See pages 5 and 6.)

In the absence of the Treasurer, the Secretary submitted his annual report, as follows:

The Treasurer of the Illinois State Medical Society hereby submits his Annual Report for the year ending May 18th, 1875:

WM. E. QUINE, *Treasurer*,

In acc't with ILLINOIS STATE MEDICAL SOCIETY, Dr.

1875.			
May 18.	To balance in Treasury, as per last report,		$161 53
" "	" cash receipts at Chicago,		453 50
" "	" " " by mail,		38 00
			$653 03
	CONTRA.		
1875.	By cash paid for reporting proceedings,	$ 40 00	
	" " " Permanent Secretary, balance for 1873,	34 54	
	" " " " " for 1874,	393 28	
	" " " Secretary as salary " "	100 00	
	" " " " on current account,	48 74	$616 56
	Balance in Treasury,		$36 47

Respectfully submitted,

WM. E. QUINE, *Treasurer*.

On motion, it was adopted.

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The Secretary presented his annual report, as follows:

T. DAVIS FITCH, *Secretary*,

In Acc't with the ILLINOIS STATE MEDICAL SOCIETY.

1874.		*Cr.*	
June 1	—By Services, as Secretary,	$100 00	
" 1	— " Stamps,	5 00	
Sept. 7	— " Stamps for Transactions,	10 00	
" 7	— " Wrappers and Twine,	40	
Dec. 1	— " Stamps,	5 00	
1875.			
Mar. 1	— " Stamps,	2 50	
" 30	— " Stamps and Stationery,	20 00	
May 11	— " Circulars,	6 50	
" 11	— " Stamped Envelopes for same,	4 80	$154 20
1874.		*Dr.*	
June 1	—To 2 years' Dues of Dr. G. W. Hewitt,	$ 6 00	
" 1	— " 1 year's Salary, and Dr. Plummer's Dues, '74,	103 00	
" 15	— " 1 year's Dues of Dr. Cozad,	3 00	
1875.			
May 10	— " 1 year's Dues of L. D. Dunn,	3 00	
" 12	— " 1 year's Dues of S. J. Avery,	3 00	
" 14	— " 1 year's Dues of Chas. G. Smith,	3 00	$121 00
	Balance due Secretary,		$33 20

Respectfully submitted,

T. DAVIS FITCH, *Permanent-Sec'y.*

The Permanent-Secretary presented the report of the Committee on Publication, as follows:

REPORT OF THE COMMITTEE ON PUBLICATION, FOR THE YEAR ENDING 18TH MAY, 1875.

The Permanent-Secretary, in behalf of the Committee on Publication, would respectfully submit the following report:

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The Committee has audited and found correct the Treasurer's Report, for the year ending May 18th, 1875:

Cash on hand, May 18th, 1874	$161 53
Total cash receipts for the year,	491 50
Total amount in Treasurer's hand,	$653 03
Disbursements, as per vouchers,	616 56
Balance in treasury,	$ 36 47

It will be observed that the Transactions of 1874 are published in the same style as the Transactions of 1873—the latter having given such universal satisfaction, not only to the members of our own Society, but to all our exchanges, among them, the Secretary of the American Medical Association congratulated me on the creditable appearance of our reports or transactions.

The Transactions cost $393,28—twenty pages less than last year, but containing more small type. The usual number was sent to members, exchanges, journals, and the balance are in the hands of the Secretary and Treasurer.

The publishing of the Transactions was given to the lowest bidder, several houses making propositions—such propositions being made for so much per page—type to average same as in Transactions for 1873. The bids varied from $1.51 to $1.60 per page, the lowest being that of the Fergus Printing Company.

The Committee would respectfully suggest, that as the coming volume will undoubtedly be much larger than that of last year, that your Committee be authorized to have them bound in cloth, which will not cost more than 15 to 18 cents more per volume, and yet make the volume much more desirable.

Respectfully submitted,

T. DAVIS FITCH, *Permanent-Secretary.*

On motion, the report was accepted and adopted.

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Dr. Freer.—I move that the same salary be voted to the Secretary, as last year—$100 for his services as Secretary.

The motion prevailed.

The President.—I wish to make a suggestion. These duties are onerous, I feel that more ought to be added than taken away, so far as compensation is concerned; but there is a very serious question going to look us in the face this year. We have run behind $100 per year, for the last three years. We shall receive, as I understand, about $450 this year, there are debts against the Society of something like $50; there is a balance we owe the Secretary of $33, leaving a balance in the treasury of about $27. That is all the property we have except the receipts of this session. We have now appropriated $100; that leaves $350. The expense of publishing the Transactions is ordinarily $393, and it will be more this year. What I am coming at is this: I am never in the habit, and I seriously protest against going to any publishing house, and asking them to publish a book, and then be responsible myself individually to carry it over a whole year. Gentlemen, I do not want to stand in that relation to the treasury. Is there any propriety in limiting the size of the book?

The Secretary.—The next volume of Transactions will be half as large again as any previous one. It should be bound in cloth; it would cost but a small sum in addition. The principal expense is in composition. The difference between paper and cloth covers will be about 15 or 18 cents, with regard to the questions Dr. Hollister has raised, it should be said that he himself is a very judicious Treasurer, and looks out for the dollars and cents. He always made a good Treasurer, and has always succeeded in raising considerable sums after the meeting has closed. Last year he collected $115 in the interim between the meetings. This year, Dr. Quine collected $11, and I collected $21. So you see this makes a very material difference. We have had bound 300 copies of the Transactions, for several reasons. In the first place, when I took the Secretaryship seven years ago, there were very few copies on hand, and circulars were sent out soliciting copies for the years from 1850 to 1857, for the use of the Society. Since I have become Secretary we have published more volumes, and there is quite a number on hand and I can furnish back numbers to members. I think we could cut off 50 copies, and have a sufficient number left for the Society. We send copies to all the other State Medical Societies, and I think this should be done. They return copies to us, and we keep them on file. Then we send to the Medical Journals all over the country, we might limit these. Copies might be sent to the journals near home only, and that would lessen the number. I think, with the extra effort of the Treasurer, who has always served faithfully, it will not be necessary to raise an assessment in order to meet the expenses, still, if it is necessary, it can be done next year. The bills are not usually paid until near the next meeting.

Dr. Hay.—As the Secretary says, it would not be well to lessen the number published more than 50, a sufficient number should be published for other State Societies, and for new members who have paid their assessments.

The Secretary.—There are some who have paid their last year's dues, and they want the Transactions.

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Dr. Jewell.—I have had occasion to look into this matter to some extent. When the type is once up it is a comparatively small expense to print a hundred copies more; for my own part, I should wish to see two or three hundred printed still, so as to furnish all who are entitled to them, and furnish all the leading medical journals over the country with a copy. In these journals the Transactions are noticed to some extent, and this is one thing that this work is done for. What is done does not want to be hidden under a bushel, print about as many as we have been printing. If there is anything good in the Transactions it will be sure to be noticed in the best journals; the expense of publishing 50 copies more is a comparatively small matter. I should say let us have 250 or 300 copies still, and if there is any deficiency we'll be assessed to any reasonable time to pay it. Let us have a good, round volume of the best matter we have got, and two or three hundred copies.

The President.—Some of these liberal men ought to be made Treasurer.

Dr. Freer.—I do not think this Society will go back on its Treasurer.

The President.—Gentlemen, I am thoroughly disgusted with this matter of dunning. I had hoped I should never have it to do again. I think we should adopt a resolution to the effect that all communications not written out and in the hands of the Secretary two months from this date, must be ruled out of the Transactions. I have noticed that it is not two weeks after publishing the Transactions, before I am called upon to pay the printer. That is right; but I do not believe in waiting so long before publishing the Transactions. It does seem to me that they should be published within two months after the meeting. I know how you that conduct journals must feel about this.

Dr. Hay.—Am I to understand that these papers presented and read here are held two months before being presented for publication?

The Secretary.—The time is fixed at the first of July, when all papers must be in the hands of the Secretary.

Dr. Hay.—I move that all papers presented to this Society, be presented in shape for publication when they are presented and read, so that they may go into the hands of the Publishing Committee immediately, so that the printers may base their estimates upon the actual work to be done, and contracts may be promptly made with them. I know something of printers' bills, for seven years I have come almost daily in contact with printers' bills, and know they are very troublesome to manage, and the more promptly they are met, the better the work is done.

The President.—For nine years past the printers of the Transactions of this Society have not come the second time for their pay.

Dr. Hay.—I cannot see the propriety of allowing two months for getting the papers ready.

The President.—Many of the reports are partly verbal. We have reports that are not all written out to-day. It occurred to me whether it would not be well for the Society to instruct the Secretary to inform persons proposing to submit

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papers at the next annual meeting, that such papers must be in form for publication at the time of their submission.

Dr. Hay.—All the papers submitted to this Society at the next annual meeting, for publication, should be, at that time, in a fit condition for publication, or should not be referred to the Publishing Committee.

The Secretary.—I think if all the contributors would be prompt, so that we could have all the papers in the printers' hands on the first of July, it would be soon enough, and as quick as they can be used.

The President.—Why?

The Secretary.—It will take the reporter a week or ten days to write out his notes; it will take me a similar time to read and correct the copy. Then it must go into the hands of the printer, and the printer will not set it up until the copy is all ready.

The President.—In two weeks after the copy is ready the Transactions could be published.

The Secretary.—Dr. Jewell has presented a report to-day, part of which is verbal. Dr. Prince does the same, most of the members have been in the habit of doing so. I think if the matter is furnished according to the rule already in force, it will be soon enough.

Dr. Peirce.—The proposition is that next year the members be requested to have their papers all ready at the date of the meeting. I favor that. The members say, if the Transactions came out in two or three months they would be much more interesting. Two weeks is long enough for any man to say what he wants to say, I am firmly satisfied that if we can have the Transactions out within 6 or 8 weeks after each annual meeting, it would be very much better for the Society; and members will be better satisfied and be more willing to continue their membership.

Dr. Jewell.—Let me speak a word in regard to the report. I explained that I was not aware that I was a member of the Committee until a short time since, the announcement came upon me when I was full of other work; and I have got together, as rapidly as I could, in the midst of other occupations, this report. As for my own part, I hardly expected my report would be published, and I certainly would not think anything strange if it were not; but if I should be obliged to get up a report for the first of June, it is not possible for me to do it, and what happens to me, may happen to somebody else. But if this rule is established, I shall not object, and I think it would be well to have the motion prevail; I make these remarks to explain why my report is in the condition it is.

Dr. Peirce.—I hope Dr. Jewell's paper will be in the Transactions in full.

The President.—I will tell you how it works. About two years ago, I addressed a circular to all the members who had not been in attendance, and were in arrears, I had a statement that the Transactions could be gotten out in about such a time, I named the time, and stated that if the dues were sent in at

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such time they would be credited, and the Transactions immediately forwarded. It was four months after that before I received the Transactions, and I had to address another circular explaining that though I had promised them they could not be got. I am sure with a prompt issue of the Transactions, we could double the money in the treasury. That is the only way to keep the balance on the right side in the Treasurer's account. The motion of Dr. Hay is that all the members shall have their papers prepared for publication, when submitted at the next annual meeting, in order that they find a place in the Transactions.

Dr. Prince.—I think it is not practicable. Those who have nothing else to do might have their reports ready; but live doctors do not have much time, and it is more important that a report should be in the Transactions than that it should be prompt. Again, the Publishing Committee have to spend their time in getting the reports ready for printing, they cannot be hurried, the exercise of discretion is a duty that requires more time than any other duty to perform, you must give the Committee time. If the members were employed on a salary, and could give their whole time to the work, they might be required to have the work done within a few weeks, but the salary of a hundred dollars don't cut much of a figure for that kind of work. I have no objection to gentlemen talking about this; but I do not think it is practicable.

The Secretary.—It has been tried, and has failed, the first of July is as early as we can get the reports in. We have to humor this man a little, have got to give that one time, and the Committee has other work to do. Sometimes two or three reports come in, and they need to be connected in some way, and we cannot go ahead and have one printed without the other.

The President.—When were the Transactions distributed this year?

The Secretary.—Sometime in September.

The President.—I thought it was in December.

The Secretary.—No, sir, it was earlier.

Dr. Peirce.—It seems to me that the remarks of Dr. Prince are not to the point. It will take, say, till July to get these papers ready for publication this year; but next year I do not see why it will take till a year from July to get the next papers ready, that is 12 months to get them ready in. If they cannot get their papers ready in 12 months they cannot in 14, that is the way it looks to me.

Dr. Freer.—I have only three or four words to say; a year is a year, no matter how you take it, it is simply a bid for procrastination, to put off the publication, we are all lazy; I include myself first, and if there is any chance for delay we will take it. It seems to me if you make it obligatory that they shall have the papers ready, they would be ready.

Dr Hay.—It is just as Dr. Freer says. The only reason why I have anything ready for the press, is that the "devil" is after me all the time. (Laughter and surprise).

The President.—He means the printer's devil.

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Dr. Hay.—Yes, of course, if all the papers were ready for the press, and to be placed in the hands of the Secretary, the report of the proceedings could be got ready in a few days. The Publication Committee, could arrange the report, and any publishing house in Chicago could get the Transactions out in 15 days.

Dr. Hay then submitted in writing the following, which was adopted:

Resolved, That at the next, and at all subsequent meetings, all the reports of committees and other papers designed for publication in the transactions of this Society, be presented in form ready for publication, and placed when read, at the disposal of the Publication Committee.

The Secretary read the name of H. K. Jones, of Jacksonville, recommended by the Board of Censors, for membership.

The recommendation was approved and ratified.

The Secretary.—I think it would be wise to get out a circular, giving the officers and various committees, who are to report at the next meeting, and send it to all the members of the Society; and in connection with that circular, I will issue this resolution.

On motion the Secretary was instructed to do so.

The President.—Will you now appoint delegates to the American Medical Association for the next annual meeting. The Secretary will please inform you how many delegates are necessary to attend the centennial meeting at Philadelphia, a meeting which will be of a good deal of interest to us all.

The Secretary.—I believe the society is entitled to one delegate for every ten members, and every fraction of ten over five.

Dr. Peirce.—I move that we proceed to select the number, I will, however, state that there was an amendment to the constitution of the American Medical Association that refers to membership, members are only admitted now from other societies. It was formerly the case that institutions sent delegates, such as colleges and hospitals; district as well as state medical societies can send.

DELEGATES TO THE AMERICAN MEDICAL ASSOCIATION.

S. C. Plummer, M.D., Rock Island.
Walter Hay, M.D., Chicago.
J. F. Todd, M.D., Galva.
J. B. Rood, M.D., Lemont.
D. E. Foote, M.D., Belvidere.
F. B. Haller, M.D., Vandalia.
J. W. Freer, M.D., Chicago.
J. H. Hollister, M.D., Chicago.
W. P. Peirce, M.D., Lemont.
Moses Gunn, M.D., Chicago.
N. S. Reed, M.D., Chandlerville.
H. B. Buck, M.D., Springfield.
Thomas J. Whitten, M.D., Irving.
Wm. L. Goodell, M.D., Effingham.
David Prince, M.D., Jacksonville.
G. Wheeler Jones, M.D., Danville.
J. Adams Allen, M.D., Chicago.
E. P. Cook, M.D., Mendota.

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A. T. Darrah, M.D., Tolono.
M. W. Walton, M.D., Ridott.
M. Sheppard, M.D., Pason.
C. Goodbrake, M.D., Clinton.
J. O. Hamilton, M.D., Jerseyville.
Lester Curtis, M.D., Chicago.
T. Davis Fitch, M.D., Chicago.
E. R. Willard, M.D., Wilmington.
Wm. A. Haskill, M.D., Edwardsville.
Robert Boal, M.D., Peoria.
C. T. Wilbur, M.D., Jacksonville.
J. M. Steele, M.D., Grand View.
L. Clark, M.D., Rockford.
O. Everett, M.D., Dixon.
T. D. Washburn, M.D., Hillsboro.
Wm. A. Elder, M.D., Bloomington.
C. Paul Simon, M.D., Chicago.
E. Ingals, M.D., Chicago.

On motion of Dr. Haller, delegates were authorized to appoint their own alternates.

DELEGATES TO STATE MEDICAL SOCIETIES.

Iowa.—Walter Hay, M.D., Chicago; T. Davis Fitch, M.D., Chicago.

Missouri.—F. B. Haller, M.D., Vandalia.

Indiana.—W. W. McMann, M.D., Gardner.

Minnesota State Medical Society.—S. C. Plummer, M.D., Rock Island.

New York State Medical Society.—W. P. Peirce, M.D., Lemont.

Dr. Mosher.—I would like to inquire, if any definite action has been taken as to the binding of the reports.

Dr. Peirce.—I move that the Secretary be instructed to bind all copies in book form.

The motion prevailed.

Dr Prince moved that Dr. Jewell be requested to complete his paper.

The President.—Is it the pleasure of the Society to listen to Dr. Jewell for 30 minutes more?

A motion to that effect was made and carried.

Dr. Jewell made his report on Nervous Diseases chiefly verbal, of which the following is an outline: He gave first, certain general remarks on the present position of neurological medicine; and then gave, a general outline of recent progress in the anatomy and physiology of the nervous system, with the view of making this the basis of later parts of the report. He called especial attention to the necessity for a closer study of the anatomy and physiology of the nervous system, as the indispensable basis to rational progress in the pathology and therapeutics of the nervous system.

He called especial attention to the researches made by

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the schools of Luys and Meynert, in respect to the general plan of structure of the central nervous system; and also, to the important histological researches made during the past few years, in various parts of the world; and to the researches made into the mechanism and modes of action of the vasomotor nervous system, and other parts of the nervous system, such as the cerebral cortex.

He then passed to a discussion of various pathological questions, and especially to a consideration of the light which a knowledge of the healthy structure and action of the nervous system throws on its pathological states.

Finally, he passed to a review of the very considerable advance which has been made, during the past few years, in the domain of nervous therapeutics; and, at the conclusion, promised to try and finish the written report in time for publication.

Dr. Freer.—I have listened with a great deal of attention to these doctrines concerning the function of motion, of and volition as being excited in different portions of the brain, or preceeding from different portions of the body. I would like to ask the question why is it that after removing the cerebrum completely in animals volition and motion remain in tact, as I have often seen in experiments that I have performed. If we had an animal I could soon show you, by removing the cerebrum, that we should have volition and motion and all the special senses, and can move apparently, with accurate notions and ideas, adapting means to ends.

Dr. Jewell.—I can give my opinion right away. If the experiment is performed upon man or upon a dog, the results that Dr. Freer speaks about would not occur. If you remove the cerebrum entirely from a dog the animal would die.

Dr. Freer.—I have always used rabbits or birds, the animals die because of the excessive hemorrhege.

Dr. Jewell.—If they don't die after the hemispheres have been removed it is because the parts are tolerably supplied with blood. There is no doubt, however, that these experiments, when successful, are made upon the lower classes of animals, for instance a pigeon. In such animals the ganglia at the base of the brain lie pretty well down, and when you remove the hemispheres, you nearly always leave certain of the ganglia to which the nerves of special sense go, like the nerves of hearing. The nerves centres of certain of the special senses are located lower down in these lower animals, and in the fishes, than they are in man. In man, the principal portion of his life is located in the cerebrum. I am prepared to go with learned Prof. Pflueger, of Bonn, who believes that the spinal cord, if you please, has something to do with the mental functions of the lower

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class of animals, and possibly in man, though I would be inclined to dispute that.

Dr. Freer.—The anatomy of the brain of a pigeon and man are essentially alike, we have the same number of ganglia, the same relative parts, the difference being in comparative size. But I have no doubt Prof. Jewell and myself would agree, if we had time to talk the matter over.

A member inquired what Dr. Jewell meant by the inhibitory action of the nerves.

Dr. Jewell.—An influence is conveyed from one nervous ganglion to another, which prevents the latter from acting. If you take a dog and pinch its tail, or touch his leg he will draw it up; so if you tickle the bottom of a persons foot, the inhibitory power being absent, the foot moves without restraint, unless the the muscles acting in a reflex way. When a man stands at the stake and permits his hand to burn, it is simply because there is an over-mastering supreme ganglion that the will seizes hold of, which arrests the tendency to reflex action. Let a man be deprived of the ability to exert inhibitory action, and he will have convulsions. When you climb to the last center, and ask what inhibits that center, I say nothing but a living will.

The paper was ordered published.

Dr. Haller offered the following, which was adopted:

Resolved, That the members of the Illinois State Medical Society, at the adjournment of the 25th annual session desires to express to the members of the medical profession, and the citizens of Jacksonville their high appreciation of the courtesies and generous hospitalities, that they have met upon their arrival in this city. They will carry away a most pleasant reminiscence of Jacksonville, and its people, its devoted physicians, and its musicians, (The Illinois Conservatory of Music), who have charmed us so sweetly; and they will look forward to the time when they shall revisit the gem of the prairies; and in cherishing this hope, bid the people a reluctant farewell.

On motion of Dr. Freer, the resolutions were ordered published in the Transactions, and the local papers.

The President.—Gentlemen, the time has arrived when the 25th anniversary of our Society is to end, it has been my pleasure to meet you, and it has been a greater pleasure to find the members so courteous; in the future we shall love these reunions more and more. Thanking you for your careful attention to the deliberations, I shall, with the closing resolutions, yield my position.

A paper prepared by Dr. Whitmire, on the alkaloids of cinchona, was read by the Secretary; but no action was taken with regard to its publication.

Dr. Haller moved that it is the sense of this meeting that

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the able and courteous manner in which the President has presided, and the address he delivered last night, reflect credit upon the profession and upon this Society.

Dr. Peirce put the motion to vote, and it unanimously prevailed.

On motion of Dr. Freer the Association adjourned.

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LETTER FROM JAMES S. JEWELL, M. D.

CHICAGO, OCT. 29TH, 1875.

DEAR DOCTOR,—You will remember, no doubt, the statement I made to the Society, as to my relation to the report on "nervous diseases," in behalf of the Committee, of which Dr. J. S. Whitmire was Chairman. I did not, certainly, know I was a member of the Committee, until a comparatively short time before the last meeting. I was then informed by Dr. Whitmire that he would expect me to make the report. I was then too much engaged with other matters to prepare a regular report. I began it, however, and, as the record will show, gave it mostly verbally, and promised to try and have it ready, if possible by the time that the Transactions should go to press. But if other engagements had not prevented, I found it impossible to prepare a creditable report, without consuming an amount of time and space that far exceeded what either others or myself had expected; and hence it was abandoned. I am unwilling, for my own part, to burden the pages of our Transactions with a bare recital of points of progress, which is done so faithfully in certain of our journals and year-books, or with loose and practically valueless comments on the same.

Yours, respectfully,

J. S. JEWELL.

T. DAVIS FITCH,
Permanent-Secretary, Chicago, Ill.

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LETTER FROM EDWIN POWELL, M. D.

CHICAGO, OCT. 28, 1875.

DR. T. DAVIS FITCH,
Permanent-Sec'y Ill. State Medical Society:

DEAR SIR,—At the recent meeting of the Ill. State Medical Society, held at Jacksonville, I presented a report in abstract, on Surgery. Since the adjournment of the Society, I have carefully written out said report. It consisted in some things that were *old*, and some things that I regarded as new. Since its completion, I have had my doubts about the propriety of its publication. This has arisen from the fact, that the "old" in the report has been sufficiently well stated before. While that which I regarded as "new," has not yet been sufficiently tried to be regarded as *fact.*

Such being my mind, I have concluded to withhold the report for the present.

Very truly,

EDWIN POWELL.

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LIST OF MEMBERS

OF THE

ILLINOIS STATE MEDICAL SOCIETY.

* Indicates those who have paid dues to date. || Deceased.

NAME.	POST-OFFICE.	COUNTY.
Adams, J. C.	Gridley,	McLean.
*Armstrong, C.	Carrollton,	Greene.
*Andrews, E.	Chicago,	Cook.
*Allen, J. Adams	"	"
Allen, G. T.	St. Louis,	St. Louis, Mo.
*Albin, G. W.	Neoga,	Cumberland.
Amery, S. A.	Quincy,	Adams.
Akin, J. H.	Glassford.	Peoria.
*Allen, C. C.	Chillicothe,	"
*Avery, S. J.	Chicago,	Cook.
*Alvis, D. H.	Galva,	Henry.
*Allen, J. N.	Mount Sterling,	Brown.
*Birney, S. H.	Urbana,	Champaign.
Bernhardi, C.	Rock Island,	Rock Island.
*Byford, W. H.	Chicago.	Cook.
*Bevan, T.	"	"
Breed, S. P.	Princeton,	Bureau.
Bennett, J. D.	Assumption,	Christian,
Barnes, I. N.	Decatur,	Macon.
Blalock, N. G.	Mount Zion,	Macon.
Bailey, F. K.	Knoxville, Tenn.	

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NAME.	POST-OFFICE.	COUNTY.
Bibb, G. R.	Denver, Col.	
Bogue, R. G.	Chicago,	Cook.
Booe, T. N.	Loda,	Iroquois.
*Buck, H. B.	Springfield,	Sangamon.
Boyd, H. W.	Chicago,	Cook.
Bonney, J. W.	Columbus,	Adams.
Baker, L. H.	Payson,	"
Bane, G. H.	Macomb,	McDonough.
Burbank, W. M.	Barrington,	"
Bardwell, G. Allen	Dixon,	Lee.
*Boal, R.	Peoria,	Peoria.
Bradley, R. D.	Bloomington,	McLean.
Blackman, F. H.	Geneva,	Kane.
*Barnett, C. F.	Bunker Hill,	Macoupin.
Burton, J. W.	Saybrook,	McLean.
Blake, S. C.	Chicago,	Cook.
Bridge, N.	"	"
*Barton, Ira	Raymond,	Montgomery.
*Bartlett, A. T.	Virden,	Macoupin.
*Briggs, R.	Clayton,	Adams.
*Barger, R. N.	Hopedale,	Tazewell.
Culver, B. G.	Greenfield,	Greene.
Corr, A. C.	Chesterfield,	Macoupin.
*Curtiss, J. T.	Otter Creek,	Jersey.
Crist, H. C.	Bloomington,	McLean.
*Cook, E. P.	Mendota,	LaSalle.
Crist, D. L.	Bloomington,	McLean.
Crist, D. O.	"	"
Corbus, J. C.	Mendota,	LaSalle.
Chambers, W. M.	Charleston,	Coles.
Clarke, H. N.	Niantic,	Macon.
*Clarke, Lucius	Rockford,	Winnebago.
Combs, J. E.	Bloomington,	McLean.
*Crawford, S. K.	Monmouth,	Warren.
Corbus, J. R.	Amboy,	Lee.
Campbell, M. B.		

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NAME.	POST-OFFICE.	COUNTY.
Carey, T. L.	Lena,	Stephenson.
Coleman, S. M.		
*Crossley, G. W.	Princeton,	Bureau.
*Cochran, G. W.	Farmer City,	DeWitt.
*Cole, F.	El Paso,	Woodford.
Cole, N. B.	Bloomington,	McLean.
*Corcoran, G. L.	Brimfield,	Peoria.
Craig, G. G.	Rock Island,	Rock Island.
*Cozad, J.	Andalusia,	"
Chaffee, C. W.	Chicago,	Cook.
Crane, O. P.	Mason City,	Mason.
*Cowan, R. S.	Girard,	Macoupin.
*Curtis, L.	Chicago,	Cook.
Clarke, W. E.	"	"
*Caldwell, W. S.	Warren,	Jo Daviess.
*Crothers, R. W.	Delavan,	Tazewell.
*Cole, W. C.	Lynnville,	Morgan.
*Cox, G. W.	Clayton,	Adams.
*Culbertson, S. D.	Piper City,	Ford.
*Church, Rita B.	Canton,	Fulton.
*Corr, L. H.	Carlinville,	Macoupin.
Davis, J. M.	Carrollton,	Greene.
Davis, T. W.	Wapella,	DeWitt.
*Douglas, D. T.	Selma,	McLean.
David, C. A.	Northville,	LaSalle.
*Davis, N. S.	Chicago,	Cook.
Donaldson, H. C.	Morrison,	Whitesides.
Dunn, L. D.	Tiskilwa,	Bureau.
*Davison, J. B.	Moline,	Rock Island.
*Davis, F. H.	Chicago,	Cook.
Dow, S. A.	Peoria,	Peoria.
*Dieffenbacher, P. L.	Havana,	Mason.
DeWolf, O. C,	Chicago,	Cook.
*Dyer, R. F.	Ottawa,	LaSalle.
*Darrah, A. T.	Tolono,	Champaign.
*Dora, J. W.	Mattoon,	Coles.

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Ensign, W. O.	New Rutland,	LaSalle.
Earle, C. W.	Chicago,	Cook.
Eppler, P.	Cayuga,	Livingstone.
Everett, O.	Dixon,	Lee.
Edmiston, J. H.	Clinton,	DeWitt.
Etheridge, J. A.	Chicago,	Cook.
Fisher, J. B.	"	"
Fisher, T. D.	LeRoy,	McLean.
*Freer, J. W.	Chicago,	Cook.
*Fitch, T. Davis	"	"
*Fink, J. W.	Hillsborough,	Montgomery.
Fenn, C. T.	Chicago,	Cook.
Fredigke, J. G.	"	"
*Foote, D. E.	Belvidere,	Boone.
*Felker, J. B.	Amboy,	Lee.
Frye, J. C.	Peoria,	Peoria.
Fisher, A.	Chicago,	Cook.
*Frazier, J. V.	Viola,	Mercer.
*Fisher, Clinton	Jacksonville,	Morgan.
Groesbeck, A.	"	"
*Goodbrake, C.	Clinton,	DeWitt.
Gunn, M.	Chicago,	Cook.
Gale, E. H.	Aurora,	Kane.
*Galt, Thomas	Rock Island,	Rock Island.
Gillett, J.	Trivoli,	Peoria.
Gregory, J.	Farmington,	Fulton.
*Gregg, P.	Rock Island,	Rock Island.
Gray, E. W.	Bloomington,	McLean.
Gill, C. J.	Oak Grove,	"
Graham, D. W.	Chicago,	Cook.
*Goll, G. G.	"	"
Gaylord, E.	Magnolia,	Putnam.
*Goodell, W. L.	Effingham,	Effinghan.
*Griffith, B. M.	Springfield,	Sangamon.
*Garretson, P. H.	Macomb,	McDonough.
*Haering, T. T.	Bloomington,	McLean.

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*Haller, F. B.	Vandalia,	Warren.
*Hollister, J. H.	Chicago,	Cook.
*Holmes, E. L.	"	"
*Hurlbut, V. L.	"	"
*Hamill, R. C.	"	"
*Higgins, R. T.	Vandalia,	Warren.
*Hamilton, J. O.	Jerseyville,	Jersey.
Herrick, O. Q.	Kansas,	Edgar.
*Hurd, H. S.	Galesburg,	Knox.
*Holderness, E.	Towanda,	McLean.
Hutchinson, J. M.	Chicago,	Cook.
*Hard, A.	Aurora,	Kane.
*Hunt, C.	Dixon,	Lee.
Hensley, J. W.	Yates City,	Knox.
Hamilton, J. L.	Peoria,	Peoria.
Hewitt, G. W.	Franklin Grove,	Lee.
Hamilton, J. B.	Kane,	Greene.
Hawley, S. B.	Aurora,	Kane.
Hill, W.	Bloomington,	McLean.
*Herriott, E. L.	Grafton,	Jersey.
Harnett, J. M.	Springfield,	Sangamon.
*Hayes, P. S.	Chicago,	Cook.
Hyde, J. N.	"	"
Hempstead, C. W.	"	"
*Hay, Walter	Chicago,	Cook.
*Haskell, W. A.	Edwardsville,	Madison.
*Hurst, N. N.	Streator,	LaSalle.
*Hays, J. L.	Paris,	Edgar.
*Ingals, E.	Chicago,	Cook.
Ingals, E. F.	"	"
*Isham, R. N.	"	"
*Ingersoll, E. A.	Canton,	Fulton.
*Johnson, H. A.	Chicago,	Cook.
*Jones, H. W.	Chicago,	Cook.
*Jewell, J. S.	Evanston,	"
*Jenks, D. S.	Plano,	Kendall.

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NAME.	POST-OFFICE.	COUNTY.
*Jones, S. J.	Chicago,	Cook.
Johnson, J. P.	Peoria,	Peoria.
*Jones, G. W.	Danville,	Vermillion.
*Jackson, A. R.	Chicago,	Cook.
*Johnson, Chas. B	Tolono,	Champaign.
*Johnston, J. P.	Jacksonville,	Morgan.
*Jones, H. K.	Jacksonville,	Morgan.
Knox, W. A.	Chicago,	Cook.
Kitchen, J. L.	Wyanette,	Bureau.
Kimber, A. C.	Waverley,	Morgan.
Kaull, W. M.	Limerick,	Bureau.
*Kinnear, A. H.	Metamora,	Woodford.
Kendall, H. W.	Quincy,	Adams.
Kent, A. P.	Chicago,	Cook.
*Little, J.	LeRoy,	McLean.
Lucas, C. J.	Jacksonville,	Morgan.
Lyman, W. C.	Chicago,	Cook.
*Littlefield, H. H.	Beardstown,	Cass.
Lucas, G. L.	Peoria,	Peoria.
*Lichty, D.	Rochelle,	Ogle.
Lyford, W. H.	Port Byron,	Rock Island.
Luce, H. C.	Bloomington,	McLean.
Luce, A. H.	"	"
*Lamme, D. W.	El Paso,	Woodford.
*Lester, G. B.	Oswego,	Kendall.
Leonard, R. L.	Chicago,	Cook.
McKowan, J. M.	Arcola,	Douglas.
Moore, D. O.	Bloomington,	McLean.
*McVey, R. E.	Waverley,	Morgan.
McFarland, A.	Jacksonville,	"
McArthur, A. L.	Rockford,	Winnebago.
*McWilliams, S. A.	Chicago,	Cook.
*Miller, DeLaskie	"	"
*Mathews, J. P.	Carlinville,	Macoupin.
McNeal, A. E.	Bowen,	Hancock.
*Morse, J. M.	Galesburg,	Knox.

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*Mileham, S.	Camp Point,	Adams.
Mills, C. H.	Champaign,	Champaign.
Marguerat, E.	Chicago,	Cook.
*Miller, T. W.	"	"
McClanahan, J. P.	Norwood,	Mercer.
McAlister, C.		
Madden, Z. H.	Clinton,	DeWitt.
*McClelland, M. A.	Knoxville,	Knox.
Marshall, H.	Marshall,	Clark.
*Mosher, J. H.	Prophetstown,	Whitesides.
McDill, D.	Biggsville,	Henderson.
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